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Who Pays?

THE air space above the United States would be as free as the ocean to those equipped to fly through it—if people did not live on the surface of the earth.

When two ocean vessels collide and sink, Davy Jones lets the pieces rest where they will on the ocean floor and that's that. But when two airplanes collide the pieces fall in somebody's garden and things have only started to happen.

If one pilot failed to bail out, the county-financed coroner has a job to do. Then a federally-financed commerce inspector goes arm in arm with a county-financed sheriff and a city-financed police officer to determine whether any laws or regulations were violated and whether the other pilot who survived should be arrested and prosecuted.

If an arrest is made two county-financed courts may spend more public money in the interests of organized society's justice. Criminal and civil laws may be involved. The county-financed prosecuting attorney will go into action on the criminal aspects, while insurance company and private lawyers give the law of Torts an airing.

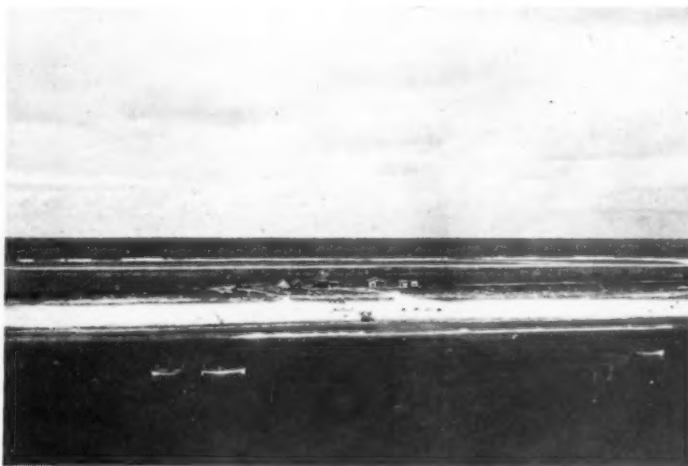
Meanwhile the city-financed trash man has cleaned up the refuse and taken it to the city-financed incinerator or dump, while the garden owner replants his petunias.

This not being all, the state legislature (county-financed members) decides that some new law is required to prevent accidents and otherwise protect garden owners from planes that drop out of the air space. A state-financed avia-

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American Export Steamship Co. Plans Trans-Atlantic Airline

The Island Amelia Missed



First exclusive photo of Howland Island, America's lonely airport dot in the mid-Pacific. Two full pages of pictures on Pages 12 and 13.

Airlines May Buy Own Airway Aids In Fight Against Time and Winter

In a fight against time to secure navigation aids urgently needed on some of the nation's airways before the coming winter, bills were introduced into the House and Senate early in August which would permit the purchase by the United States of air navigation facilities established by airlines.

Realizing that its own program of airway aid construction will miss the coming winter by a wide margin, Department of Commerce officials are pushing passage of the bills before adjournment of Congress as the only way to supply aids where they are badly needed. Under this plan, the airlines could establish the aids in double-quick time by paying bonuses to manufacturers if necessary and would be re-imbursed later by the Government.

Senator Royal S. Copeland, who has been much concerned about the need of additional airway aids, introduced the bill in the Senate (S-2817) and Representative Fred H. Hildebrandt

(D.—S.D.) introduced a companion bill in the House (H.R. 8150).

The bill was suggested by John S. Wynne, attorney for Western Air Express and Hanford Airlines in Washington, and was immediately supported and encouraged by the Department of Commerce. Since the pending legislation is of vital importance to the whole airway aids program, passage of the bill before adjournment seemed highly possible, particularly with the strong endorsement of the Department of Commerce.

Two years ago American Airlines built about 300 miles of airways under the specifications of the Department of Commerce, and then went to the Department the following year and suggested the Department purchase the aids for addition to the government's system. The Department expressed desire of doing so and the matter was put up to the Comptroller General, who ruled that the purchase could not be made legally as the law stood. The

(Turn to next page)

Applies to Department of Commerce for Permit; Would Supplement Its Ships With Aircraft

ORGANIZATION of American Export Air Lines, Inc., as a wholly owned subsidiary of the American Export Steamship Corporation, to establish an American over-ocean air transport service between the United States and Mediterranean seaports, was made known on August 5.

Entrance of the only American steamship company operating under the American Flag in the Mediterranean and Black Sea into the trans-Atlantic air transport picture is one of the most important developments in the complex international aviation situation.

American Export has applied to the Department of Commerce not only for a permit for experimental flights in the Mediterranean, but it also applied on August 4 for permission to fly experimentally over the Atlantic. As soon as clearance is obtained in the capital, the company plans to proceed at once to start establishment of the airline as a supplement to its steamship service.

With Pan American already strongly in the trans-Atlantic field, the entrance of a rival which has a steamship operating background of twenty years, bids fair to make the Atlantic an intriguing scene of aviation developments for the next few years.

The steamship company serves no less than 120 ports on its present trade route and operates a fleet of freighters divided into two classes, one for freight only, and the others for express freight and passengers.

American Export is understood to be well financed in its plan to supplement steamships with aircraft. Not only that, but it has already conducted extensive surveys over its entire route and has conferred unofficially with officials of every country which would be touched by its air service.

Paris is understood on good authority to be one of the main objectives of the air service, although the line would operate through the Mediterranean and eastward as far as the Black Sea.

The aeronautical key to American Export's picture is James Eaton, one-time president of Ludington Airlines, long since defunct, and former general traffic manager of Pan American Airways. Eaton also attempted to open

up a seaplane service between New York and Boston but this did not materialize. Eaton is vice-president of American Export Air Lines, Inc., but is not connected with the steamship company. Officers of the latter company are officers of the aviation subsidiary.

Officers of the steamship corporation are: W. H. Coverdale, president; John E. Slater, J. E. Gehan and H. M. Gillespie, vice-presidents; Major H. M. Gillespie, secretary and treasurer. Directors are T. L. Chadbourne, W. H. Coverdale, T. G. Smith, C. U. Bay, Thomas Hitchcock, Jr., J. A. Thomas, and J. E. Slater.

Although American Export has been planning on an airline service for some time, and the ground work has been carefully laid, developments just recently reached the stage where the line is ready to consider experimental flights. It is understood that the Government has already approved, at least tentatively, the application for experimental flying in the Mediterranean, while the trans-Atlantic application is now under consideration.

No Equipment Ordered

The company has been given assurance from several leading manufacturers that equipment may be had in from twelve to fourteen months after the order is placed. No order has been let as yet pending granting of applications. It is understood on good authority that the Glenn L. Martin Company will supply equipment for the Atlantic, while Sikorsky would supply flying boats for the Mediterranean.

While all of the details of the trans-Atlantic plans cannot be revealed at this time, one of the routes planned is via Bermuda and the Azores to a point on the North African Coast or to Portugal. This much was stated by Col. Kenneth Gardner, general counsel to the American Steamship Corporation, at a hearing before the House Post Office Committee on June 18.

Mr. Gardner was urging Congress at that time not to retain provisions in the pending foreign air mail bill (H. R. 7873) which would "tie up" the Atlantic for one company, namely, Pan American Airways.

"I hold no brief against Pan American Airways," he said at that time. "We are acquainted with and admire the work they have done in South America and in the Pacific, and we are acquainted with what they propose to do in connection with a European route. The service which they propose for Europe will serve Atlantic ports of Europe and England, whereas we will serve Mediterranean and Black Sea ports.

"We have been in business twenty years with the aid of the Government, just like you are aiding Pan American Airways. You have enacted a law to discontinue aid previously extended under the Jones-White Act and a direct subsidy will go into effect June 30, 1937, under the Merchant Marine Act of 1936. Therefore you should not establish an air service directly or indirectly that will ruin other necessary forms of transportation or make them too expensive to operate. Government aid should be given to both steamship and air services. They should supplement each other.

"We should like to have sections 3, 8 and 17 of the bill so clarified that when Pan American Airways or any other company gets a contract to operate a service from New York or any other American port to the Azores, Bermuda, Spain, France or England, as has been indicated in recent contracts with the Post Office Department, a new airline hookup with an old-established steamship line should not be debarred

from operating an airline from the United States to Europe and Black Sea ports. That is our problem in a nutshell.

"We have organized a subsidiary corporation to handle the air service—American Export Lines, Inc. We have made a survey of the service in the Mediterranean; we have contacted the foreign governments concerned there with the knowledge and consent of our Department of State. We have applied to the Department of Commerce for permission to make preliminary flights and that application is now pending.

Seek Air-Sea Combine

"We are actively engaged in trade in the Mediterranean and Black Sea as an American company, having a well-established, adequately performing steamship service for mail, passengers, and freight. We now want to establish a supplementary air service for fast-moving mail, express and passengers, and at the same time construct new, moderate-sized vessels with moderate speed; to effect a splendid combination.

"We have no brief against any company that wants to fly elsewhere, but we urge you not to make this law so that it will prevent, by interpretation, our right, as we see it, to fly from America to Bermuda, the Azores, and to the Mediterranean and Black Sea ports."

Thomas Hitchcock, Jr., a director of the steamship corporation and wealthy sportsman, also testified before the House committee, summarizing the reasons why the shipping company wants to supplement its marine service with aircraft.

"We as directors of this line are fighting to maintain a form of transportation that will be adequate to meet foreign competition and possible competition from domestic lines," he said. "It is the feeling of the directors that the airplane has proved itself a successful means of transportation and it cannot be disregarded; and if we are prepared to maintain our present position in the eastern Mediterranean, we shall have to look to this form of transport to supplement our present steamship service.

"With that in view we have made surveys of the route and find that it is particularly well adapted to airplane transportation because it is fairly free from fog. Practically all of the route is what is known as the southern route, and the hazards are not very great.

"If we start the mail service we would at first have to land at Bermuda, then go to the Azores and to points on the Black Sea. A mail service to England would use Bermuda and the Azores as stopping points and would probably shoot off to England.

"We should like to protect our present trade route or routes with any form of new transportation that may be evolved. At present it is obvious to us that the airplane is the most desirable way to carry mail and passengers. Handling freight is a large part of our business. We are faced with the necessity of constructing freighters to meet competition; but we would not be interested in constructing a large passenger boat like the *Queen Mary*, because we believe that the future of passenger travel, high-class passenger travel, is going to be centered in the big airships."

Foreign Lines Subsidized

Both men referred to the practical inability of American steamship lines to compete in the European race for larger and faster boats, since the large foreign steamship companies are heavily subsidized.

"Our line feels," Mr. Gardner said, "that air service will supplement steam-

Braniff on War Path on Finding P.O. Planning Houston-Brownsville Bid

The Post Office Department has made plans to advertise for bids the proposed air mail route between Houston and Brownsville "as soon as Congress has gone home," according to authentic information gathered August 9, thus opening up again one of the hottest battles in the current air mail situation.

Learning of the move by the Post Office Department, Braniff Airways has launched a strong counter-move to prevent the Department from advertising the route and has garnered in one of the most formidable arrays of political talent obtainable for the purpose.

The Post Office was ready to advertise the route along with four other routes on June 11, but a strategic coup by Braniff Airways forced the Post Office to withdraw that route from advertising, although the specifications had been printed and were ready for distribution. Braniff was supported by the Oklahoma and Texas Congressional delegations and with Congress almost adjourned, the Post Office decided it could advertise the bid without too much fear of political pressure.

Eastern officials were said to have been in the Southwest recently and had made comments that "We'll be in Brownsville by December," Eastern being extremely anxious to obtain the route and willing to bid an infinitesimally small sum in order to gain it. The link would give Eastern a straight run from New York to New Orleans, Houston, and the Brownsville gateway to Mexico.

Braniff does not want Eastern in the picture on the grounds that it would destroy Braniff's north-south primary route. Braniff maintains that Eastern could not make connections with Pan American at Brownsville for several years because of the lack of navigation aids for night flying, and that Braniff is adequately serving the Brownsville gateway with numerous schedules and good connections not only with Pan American but also with connecting east-west carriers at Dallas and Fort Worth, Kansas City and Chicago.

Lined up with Braniff in the fight are Amon Carter, publisher of the *Fort Worth Star-Telegraph*, and a close personal friend of President Roosevelt and other leading Democrats; Representative Hutton L. Summers, of Dallas, chairman of the House Judiciary Committee; Representative Maury Maverick, of San Antonio, a battling Democrat; Representative Fritz G. Lanham, of Fort Worth, Representative Jack Nic-

ols, of Oklahoma, and Representative William R. Poage, of Waco, Texas.

O. M. "Red" Mosier, vice-president of Braniff, was in Washington the week of August 9 conferring with Post Office officials and determined to "fight to the last drop" to keep the P.O. from advertising the route. The Braniff-Eastern struggle over the Brownsville gateway traffic has been of long standing and Braniff has charged that the P. O. is favorable to Eastern.

Airlines May Buy

(Continued from page 1)

ruling was to the effect that when the Department of Commerce could not furnish air navigation aids, it was the air mail contractor's business to furnish them, and that for the Government to purchase the aids after installation by an air mail contractor, would be looked upon as extra compensation for what the airline had contracted to do.

With this as a precedent, and with additional air navigation aids urgently needed for the coming winter, Mr. Wynne conferred with officials on the matter of amending the law. Col. J. Monroe Johnson, Assistant Secretary of Commerce, and Fred D. Fagg, Jr., Director of the Bureau of Air Commerce, both agreed an amendment to the existing law would go a long way toward solving a problem—the problem being the possibility of more air crashes during next winter.

Two Years Behind

Some 1760 new miles of air mail routes have been recently added by the award of four new contracts. There are no air navigation aids on any of these routes. Not only this, but the Department of Commerce is two years behind on establishing of aids, regardless of how the present Bureau regime is pushing its new program authorized by the current Congress.

The new law would enable the Department of Commerce to say to an airline with a meritorious case—"You build the aids under our specifications and when we are caught up with our appropriations, we'll negotiate to take them off your hands. If the airlines build the aids, it means a quicker job, for the Government procedure is a lengthy one. By no stretch of the imagination can the Department have an additional air navigation aid of any consequence installed before next spring.

Senator Copeland's bill is not a guarantee that the Government will buy the equipment, but it is insurance that until the Department can catch up to the airlines, they aren't taking any chances, and every airline knows that the avoidance of a fatal crash is worth almost any sum of money.

"It's a gamble on the time element by the airlines themselves," Mr. Wynne said. "The bill does not make certain that the Government will take over the aids, but it does provide that if the aids are not obsolete, it will take them at their existing value. It's a way to lick a serious problem when the Department's hands are tied by government procedure."

Regardless of passage of the bill, some of the major airlines are going to have to dig into their jeans and hastily construct aids before winter. At least one airline sees no alternative since it cannot afford at any cost to experience another crash next winter.

Airport Crisis Grows as Two More Airline Stops Cancelled; Bureau Acts

Over 15 Airline Cancellations in 60 Days; Post Office and Cities Concerned by Sudden Flood of Eliminations

With fifteen or more cities canceled as air mail and air passenger stops within the past sixty days, Bureau of Air Commerce and Post Office Department officials have announced their determination to tackle the most serious air transport problem faced since the air safety investigations.

One by one the airlines have notified various cities that they are canceling scheduled stops either because of what they commonly call "field conditions" or because of the institution of larger transport equipment which they assert they cannot take into small and inadequate fields.

Latest airports to be canceled out or are slated to be canceled, both because of field conditions which the airlines say are unsatisfactory, are Peoria and Moline, both in Illinois.

Bureau officials admit the situation is grave and the Post Office Department is bearing the brunt of literally thousands of telegrams, phone calls and letters complaining against cancellations. Cities who have spent large sums developing and improving their airports on promises of air mail service now found themselves being cut out on an overnight's notice.

At the present moment the situation is being met by a series of buck passings. The airlines pass the buck to the cities and the Bureau of Air Commerce. The Post Office Department, having to rely on the Bureau's decision as to safety of fields, also passes the buck to the Bureau. The Bureau, on the other hand, is inclined to pass the buck to the airlines for installing new equipment without advance notices or for urging the Bureau to declare an airport unsafe when the airline doesn't want to make a stop.

Conferences Planned

The Bureau, feeling that it is "holding the bag," is taking steps to call a series of conferences with airline and Post Office officials to work out some solution to the problem. One such conference was to be held August 9. Meanwhile airlines have been in the practice of notifying cities on the spur of the moment that their airports are canceled as scheduled stops and the airport section of the Bureau of Air Commerce has been the scene of endless telephone calls and telegrams and the usual pressure from Congressmen and civic officials.

A still further quirk in the crisis is the request that has been made by various airlines seeking approval by the Bureau for "provisional loading permits." Each aircraft is rated according to pay load according to safety requirements. Some of the airlines, however, want permission to increase the payload above the present amount for operations on and off of certain airports which are considered adequate and safe. In other words, a line crossing the country with few stops, and stopping only at airports with long runways, feels that it should be given permission to carry additional weight.

While this is undoubtedly a sound plan, provisional loading permits are now serving only to complicate the whole question of airport ratings. If these permits are given, then it means scientific surveys, special requirements to fit individual needs, and a larger staff on the part of the Bureau. Until a decision has been reached on provisional loadings, no airport in the na-

tion will know whether it is a "super terminal," a terminal or an airport. Drafting of the new airport regulations is going ahead but they are far from being completed. Tentative regulations published in past issues of AMERICAN AVIATION are still on the books, but provisional loading permits would upset the whole system with a lot of reservations.

W. Va. Protests

Typical of the reactions throughout the country is a letter received from David M. Giltinan, of Charleston, W. Va., a member of the Board of Aeronautics of West Virginia. Recently American Airlines replaced Stinson A's with Douglas DC-2's and canceled air mail stops at Charleston and Elkins in that state.

Pointing out that it was up to the Post Office Department and the Bureau of Air Commerce to work out a solution, Mr. Giltinan said: "Most of these additional air mail routes were authorized on the basis of serving territory previously without such service and there is little justification for the continuance of such contracts if the operators are now at liberty to discontinue the intermediate service when and if they see fit."

"This works a deep injustice to communities (such as Charleston and Elkins in this state) that have spent a lot of their own money to obtain such service and have improved fields (limited, of course, by natural surroundings) which have been entirely safe and adequate during the last three or four years, using Fords, Condors, Stinson A's, and Boeing 247's. The saving in time between Cincinnati and Washington and intermediate points by stepping up to Douglas DC-2's is inconsequential."

"I hope you will give this entire matter some publicity. If it continues along present lines, it is only a matter of time until it will affect every airport in the country and, sooner or later, a balance must be effected between airplane design and available landing facilities."

ME AND GINGER

Charlie Beard Joins the Texas Navy (?)

Oklahoma City, Aug. 4.—Charles E. Beard, vice-president of Braniff Airways, has been appointed a "Commodore of the Texas Navy." The boys are wondering whether this is an honor or whether Beard should be tried for heresy or something for being taken over by the shipping interests. On the other hand, Ginger Rogers is also a fellow Commodore and only two other persons have ever received the distinction. At any rate, Governor James V. Allred issued a proclamation and now Braniff has the Texas Navy to worry about. Beard is now trying to get the Governor to call a convention of Texas Commodores and thinks maybe Ginger isn't such a bad gal to work with on Texas naval strategy. Some gossip-mongers have even spread the report that Beard is trying to get the Governor to appoint Myrna Loy as a Commodore. What won't happen next in the Southwest!

Status of Legislation

With Congress within a week or ten days of adjournment as this issue went to press, probability of passage of a number of important aviation bills appeared good. Since the last issue, only one bill, S-1881, passed both Houses and went to the President for signature. This bill calls for payment of \$79,118.88 to the Consolidated Aircraft Corp., San Diego, to compensate for additional costs in fulfilling a Navy contract.

Status of important aviation legislation on August 15 was:

S-2 and H. R. 7273—McCarran-Lea Bills: Would transfer regulatory functions of airline control from Post Office to Interstate Commerce Commission. On calendar of both Houses. Came up for debate in Senate August 13 and 14. Passage in Senate a probability. In the House a possibility.

S-1760 and H. R. 7474—McCarran-Crosser Bills: Would transfer airline regulation from Dept. of Commerce to the Interstate Commerce Commission. On Senate calendar for debate Aug. 16 or 17. Advocates believe Senate passage probable. House passage possible.

H. R. 6628—Mead Bill: Would increase air mail routes from 32,000 to 35,000 miles. Passed House June 2. Passage in Senate considered certain.

H. R. 4732—Mead Bill: To revise the Air Mail Act of 1934, giving Post Office more control over airlines. Reported out in House. Passage unlikely.

H. R. 6167—Dimond Bill: Would provide for Alaska air mail service. Passed House Aug. 2. On Senate calendar.

H. R. 7447—Haines Bill: Provides for experimental air mail service. Passed House Aug. 2. On Senate calendar.

H. R. 7873—Mead Bill: Foreign air mail bill sponsored by Post Office Dept. On House calendar only.

S-1882—Bill for payment to Consolidated Aircraft Corp. of \$92,993, compensation on Navy contract. Passed Senate. Now on House calendar.

S-2718 and H. R. 8510—Provides for purchase by U. S. of air navigation facilities established by airlines. On Senate calendar.

S-136—Providing for sale of helium to foreign countries under certain conditions. Passed Senate Aug. 11. Now on House calendar.

H. R. 8143—Authorizes appropriation for development of autogiro. Referred to Military Affairs Committee (Introduced Aug. 4).

S-2838—King Bill: To establish a national airport at Camp Springs, Md. Passed Aug. 13.

H. R. 7985—Bill to enlarge present Washington Airport. Passed House and passed Senate Aug. 14. Bill now in conference.

McCarran-Lea Bill

Passage Held Likely

The McCarran-Lea Air Carrier bill (S-2 and H. R. 7273) finally came up for Senate action on August 13. With Senator Pat McCarran, of Nevada, leading the debate, the discussion of the bill was continued over until Saturday, August 14. After an hour and a half on that date, during which time Senator Kenneth McKellar, chief opponent of the bill, mixed words with Senator McCarran, the debate was continued until Monday afternoon, Aug. 16.

Because a vote was expected on the bill Friday or Saturday, this issue of the magazine was held up for the result. With recessing of the Senate over the week-end, however, the result will be carried next issue.

Possibility of passage of the bill, which would remove objectionable control over the airlines from the Post Office to the Interstate Commerce Commission, appeared exceedingly good in the Senate and advocates appeared hopeful for the first time that the bill would go through the House before ad-

journment. At least 65 Senators and about 130 Representatives are fully committed.

Coincident with bright outlook for S-2, prospects for the airline safety bill, sponsored by Senator McCarran and Representative Crosser, were improved immeasurably, with a possibility that the bill would pass both houses this session. This bill would transfer safety regulations from the Dept. of Commerce to the I. C. C.

In the Senate debate on S-2, Senator McCarran charged that Post Office Solicitor Karl A. Crowley had violated executive orders by lobbying against the bill in the Senate corridors. Senator McKellar immediately jumped to the floor and charged that two Interstate Commerce Commission employees, Louis Inwood and George Keyser, were not only in the corridors but were on the Senate floor "aiding passage." Senator McCarran pointed out that Inwood and Keyser had been officially requested to be there with permission of the I. C. C. merely as "clerks" and were not lobbying.

A complete legislative Summary for aviation of the 75th Congress will be given next issue.

TO DISCUSS AIRPORTS

Western Aviation Planning Conference in Sept. Gets Ready Responses

The present serious problem of inadequate airports and the important matter of what government agency will have to stand the expense of improvements of developments, will feature the Western Aviation Planning Conference to be held at Sacramento, Calif., on Sept. 23, 24 and 25, according to Arthur S. Dudley, secretary manager of the Sacramento Chamber of Commerce who is host to the gathering.

"Civic officials in the eleven western states being represented in the conference are greatly concerned about airports," Dudley said. "The airlines are constantly replacing smaller transports with large ones and hardly a transfer takes place without some cities being left without air mail, passenger and express service that they have enjoyed up to that time. It is evident that the nation is greatly in need of expanded airport facilities, but some communities cannot see their way clear to pour more and more money into airports without some additional aid from the Government."

"The future of airports is going to be one of the primary topics of discussion. The response to the invitations issued by Governor Merriam have been splendid. There is every indication that this conference will be one of the most important to be held in many years. Every phase of aviation will be represented and every one of the eleven western states is sending delegates."

5 Countries Get Cuba

Lock Haven, Penna., August 6.—Cub "flivverplanes" have recently been exported to five widely separated countries. Wessel Flyvesselskop, Cub distributor in Oslo, Norway, received one plane, marking the fifth delivery in Norway during the past seven months. Americo Homem de Gouveia, Luanda, Angola, Portuguese West Africa, and the American Far Eastern School of Aviation in Manila, P. I., Cub dealers, each received one "flivverplane." D. C. B. Deo, Rajabagh, Calcutta, India, and Bernard Owen, New Zealand, private owners, were also listed in the five shipments.

A-A Passes Up Charleston; Newspaper Charges It's Violating Contracts

Charleston, W. Va., Aug. 4.—In a spirited and extensive editorial today *The Charleston Gazette* protested against the canceling of Charleston as an air mail stop on American Airlines' Washington-Cincinnati route, and said the cancelation was a violation of the contract entered into with the Post Office Department.

"In submitting a bid to the Post Office for an air mail contract, the operator proposes to run a definite number of schedules to carry the mail over a designated route, making the required number of stops at the cities to be served," *The Gazette* said. "The bids are submitted with full knowledge on the part of the operator of the type of country to be flown over, the size and condition of the airports at the towns to be served. The air mail contract may be let for the designated route with the required stops on condition that a particular airport may be brought up to the requirements, and when that is done the operator is required to make the stops.

"When an airport has been brought up to the requirements for the equipment designated to be used by the Post Office Department at the time of the letting of the contract, it would seem that this constitutes a contract between the Post Office Department, the air mail operator and the city to be served, which could not be arbitrarily canceled by one of the parties without consent of the other two parties.

"The citizens of Charleston, relying upon this, have spent many thousands of dollars of their own money, and through the city administration and the West Virginia Airways, Inc., have induced the Federal Government to spend not less than two hundred thousand dollars on the airport. All of this has been spent through the different Federal agencies of R. F. C., F. E. R. A., P. W. A. and W. P. A., under the direction of Department of Commerce engineers. This has given the city a creditable airport adequate to accommodate the use of any flying equipment that might have been reasonably contemplated at the time the mail contract was let and at the time the improvements were being made.

"Charleston now finds that the operator, American Airlines, has represented to the Post Office Department that it wishes to use large Douglas planes requiring high landing and taking off speeds, necessitating longer runways, knowing that such planes cannot be safely operated in the airports in West Virginia. The Department of Commerce would, of course, in the interest of safe operation, have to say that such larger planes could not be safely operated in the airports of West Virginia, which, however, are the same airports, greatly improved, that existed at the time the mail contract was let.

"The Post Office Department has, therefore, allowed the operator to suspend air mail service, and also passenger and express service, pending the improvements in the airports to accommodate the larger and speedier planes, which are not needed for this service. It is well known that the terrain in West Virginia makes it impossible to build airports of the same dimensions as those in a level country.

"If the air mail contractor is allowed by the Post Office Department to change its equipment arbitrarily, as was done in this case, it could with as much reason, logic and fairness as well say that it had decided to change from

landplanes to seaplanes and, therefore, a city, to enjoy the service it had spent large sums of money for, would have to provide adequate facilities for the operation of hydroplanes.

"The citizens of Charleston and of West Virginia have no desire to retard the progress of aviation—in fact, they have demonstrated their willingness to encourage it in every way—but they believe that if aviation is to serve the purpose for which it was intended, it must serve all of the centers of population and not alone the larger cities for the long distance flights.

"The Charleston airport is adequate for the ten passenger Boeings being used by Pennsylvania Central Airlines, which is being operated without an air mail contract. Is it asking too much to require the operator with an air mail contract to use like or similar equipment? It is the belief of this newspaper that this issue should be put squarely up to the Post Office Department."

The editorial adds that the state has three flights east and three flights west every day by American, but that not one of the three schedules makes a stop now within the state. It also said Charleston had developed much more air traffic in proportion to its size "than any city on the route."

Maine Club Invites Pilots for Aug. 28-29

Augusta, Maine, August 15.—The 15-year-old Maine Aero Club, which at present has a membership of 321, will sponsor the Maine Aero Rendezvous on August 28 and 29 to the State Airport here. The meet will be the first of its kind ever held in the East. A new, nationally-known two-place airplane and flying instructions, or \$1,000 in cash if the winner prefers, will be given away as top prize.

Aerial contests and exhibitions are to be on the program. Subject to approval of the Aeronautical Division of the U. S. Department of Commerce, several flying contests, including races, a try for an altitude record for light planes, acrobatics and formation flying will also be included.

Some of the planes expected at the rendezvous include a 32-place flying boat, and an \$85,000 low-wing monoplane owned by a Maine industrialist. A squadron of Army bombers is expected also.

Al Williams, Howard Hughes, Eddie Rickenbacker, Dick Merrill, Tex Rankin, Jimmy Dolittle, and Clarence Chamberlain are among the pilots who have been invited to attend as guests of the club.

Lieut. Earl Crabb, pilot of the Maine Forestry District's plane, and Ned Hutchinson, of Boothbay Harbor, who operates the Maine Inland Fisheries and Game Department's ship, are taking leading parts in the plans. The Maine Development Commission is aiding the affair and pilots from out of the state are particularly invited.

McBride Joins ALMA

Chicago, Aug. 4.—J. D. McBride, senior mechanic with American Airlines, Inc., has resigned his position to accept a post as field representative and organizer for the Air Line Mechanics Association. His headquarters for the time being will be at Miami, Fla.

Pioneering A New Air Route



Hon. C. D. Howe, Minister of Transport of the Canadian Government (center) accompanied by J. H. Symington, K. C. (left), member of the board of directors of Trans-Canada Air Lines, and the Canadian National Railways with Commander C. P. Edwards (right), Chief of the Air Service, Department of Transport, made the first dawn to dusk flight over the new Trans-Canada route from Montreal to Vancouver late in July. The party left Montreal early in the morning and had dinner the same evening in Vancouver, adhering approximately to the 17½ hours schedule which it is expected the newly organized airline will put into operation shortly. The photograph was made in Montreal at the start of the flight.

Western Air's "Fly-Ur-Car" Service Is Sales Argument Against Motoring

Having met success with its Fly-Ur-Car service on its line between Salt Lake City and San Diego, Western Air Express plans to add this service to National Parks Airways which it took over on August 1 following a merger agreement completed several months ago.

The plan was developed by Western Air to attract motorists traveling the highways from point to point on the line and has grown in popularity since its inception some time ago. The plan was developed out of a survey conducted by Thomas Wolfe, vice-president, who discovered that many persons drove from one city to another because a car was needed at the destination.

Through an arrangement with the Hertz Drive-Ur-Self organization, passengers now travel to these same points approximately 40% cheaper, 300% more safely, and 500% faster than driving—and still have a car to drive on arriving at their destination.

The system as developed by WAE is simple. At the time an air ticket is purchased, the passenger is asked whether he wishes a car upon arrival at destination. If so, the order for the car is radioed ahead and the passenger is sold an extra coupon on his ticket, which includes the car for 24 hours. This ticket eliminates the necessity for any down deposits; the model car desired is delivered to the airport and picked up when the passenger is ready to depart. The rate is considerably less than the regular "Drive-Yourself" rates and is as cheap as driving one's own car when all costs are considered.

Various rates apply, but the average current model car can be secured for a 24-hour period, limited to 50 miles of driving, for \$4.75. Extra mileage is paid for at the rate of 9c per mile up

to 100 miles, and the deal can be renewed for additional days or weeks if desired.

Passengers save considerable money over the cost of hiring cars and taxis, and even airport to city charges for regular limousine service, particularly in large cities where distances are great.

So popular has the service been in Los Angeles and San Diego that WAE expects a similar frequent use on the National Parks division extending north from Salt Lake City to Great Falls, particularly in view of the fact that this route traverses scenic country with a scheduled stop at West Yellowstone during the summer season. Los Angeles race fans have made use of the service by flying to San Diego, picking up a car and driving to Caliente, Old Mexico, and returning by air to L. A. in the evening. On the main route passengers are saved the fatiguing auto trip through desert country between Los Angeles and Salt Lake City without the inconvenience of being without a car at either end of the trip.

"It's a new way for air transportation to compete with automobile traffic on an equal basis," Wolfe explained. "It brings the airlines the greatest potential market yet tapped for sales."

Lockheed "14" Tested

San Diego, August 2.—Test flight on the new Lockheed "14", believed to be the fastest passenger ship ever built for commercial service were held in Southern California last week. Marshall Headle, veteran test pilot, handled the new airliner on its maiden flight.

The plane is designed to carry 11 passengers, a crew of three, and a half ton of cargo. Top speed is estimated at better than 250 miles an hour.

Weather Bureau to Expand With \$696,000 Fund Increase

**Airway Meteorological Service to be Strengthened
with Additional Appropriation from Congress;
Personnel to be Increased**

The United States Weather Bureau launched in July an expanded program of weather services made possible by an increase of \$696,000 in the Agriculture Appropriation Bill for the fiscal year beginning July 1.

The bulk of the increase will go for expanding and strengthening the airway meteorological service. Of the \$696,000 increase, however, \$140,000 is to replace a similar amount formerly transferred each year from the Bureau of Air Commerce to the Weather Bureau for defraying the costs of telegraphing the airway weather reports, leaving a net gain of \$556,000.

Dr. Willis Gregg, chief of the Weather Bureau, has announced that these funds will be used for the following purposes:

1. Assignment of trained Weather Bureau personnel to hourly airway reporting stations equipped with teletype. These personnel will replace or augment, the present complements of technically untrained and inexperienced airway observers, thus increasing the accuracy of the airway weather observations made at those places.

2. The inauguration of 4 pilot balloon observations each day at all stations in the United States. Many of the 73 pilot balloon stations involved are taking only 2 or 3 observations daily and an increase to 4 a day at all stations will result in a much more complete and satisfactory network of observations for forecasting and for use in connection with air transport and other flying activities. Also, development of procedures and methods in connection with the use of larger balloons to obtain data at higher altitudes than is practicable with the present 6-inch balloons.

3. The assignment of additional trained employees to the Weather Bureau airway weather forecasting centers, thus permitting the preparation of additional charts and maps needed in connection with the issuance of airway regional and terminal forecasts for benefit of aviation activities.

4. The furnishing of complete airway instrumental equipment to about 50 new teletype stations to be established by the Bureau of Air Commerce during the fiscal year, which stations will make hourly airway weather observations, and the replacement of outmoded or obsolete equipment at stations not now having modern instruments.

5. The establishment of a regular maintenance and inspection service for the airway meteorological system to insure maximum training of personnel and efficiency of instrumental equipment.

6. To have a selected list of present 6-hourly off-airway stations report at 3 instead of 6-hourly intervals, in order to provide vital information to forecasters and others, needed to insure that adverse weather does not reach an airway without forecasts or warnings being issued. This is particularly applicable to airways paralleling seacoasts where proper reports from the ocean areas are unavailable or very sparse.

AMERICAN AVIATION is read in more financial houses than any other aviation magazine.

Tri-State Aviation Buys 4th Bellanca

In anticipation of experimental air mail service by the Post Office Department, Tri-State Aviation Corporation, of Irwin, Pa., of which Dr. Lytle S. Adams is president, has purchased his fourth Bellanca Plane. A bill authorizing experimental services of various kinds (H.R. 7448) has passed the House and on passage by the Senate would permit the Post Office to experiment with air mail carriage in other than passenger-carrying transports.

Dr. Adams is the inventor of a pick-up and delivery device attached to a plane which permits of automatic service to a large number of airports on a single trip without the necessity of making complete stops. It also eliminates the need of large terminals for smaller communities. Many demonstrations have been made through Pennsylvania and West Virginia.

The latest Bellanca acquisition is the Aircruiser type capable of carrying a payload of a ton and a half. It is a 15-place single-motored sesquiplane, of which 14 are in Army Air Corps service as transport-cargo units and others are now being used commercially in Canada, Cuba and Mexico. It is powered by a Wright Cyclone 575 h.p. engine.

Should the Post Office authorize experimental services with Dr. Adams' pick-up and delivery device, Tri-State Aviation Corporation plans air mail and express carriage to some 100 industrial centers between Pittsburgh and Lexington, Ky.

Memphis-Birmingham Application Denied

Relying on a precedent that extensions to existing air mail routes can only be made from either terminus of a route and not from intermediate points, the Post Office Department refused to consider formally the application of Chicago & Southern Air Lines for an extension from Memphis to Birmingham for which it applied on Aug. 25.

U. S. Sending Picked Aviation Corps to Peru to Combat Inroads of Europe

Alarmed by the big drive European countries are making for South American aviation business, the United States is sending a corps of picked officials and virtually tons of exhibits to the technical aviation conference to be held at Lima, Peru, Sept. 16-25.

Plans for sending U. S. delegates to the conference have been underway for many months, but the conference was considered more or less perfunctory until word arrived in the capital that other nations, particularly Italy, were going to put on a heavy show for the South Americans. Six Government agencies—State, Commerce, Post Office, Agriculture, Treasury and the Federal Communications Commission—

Russians In Washington



After completion of the longest non-stop flight on record in the second Russian trans-Polar flight of the season, the three Moscow pilots are shown above being greeted at Washington Airport on their arrival from Los Angeles. The handshaker in white is Constantine Oumansky, Charge d'Affaires of the Soviet Embassy and the recipient of the greeting is Sergi Danilin, the navigator who kept the plane on a steady course when compass and the other usual flight aids proved of no use. On Danilin's left is Mikhail Gromov, pilot, and on his right is Andrei Yumashev, co-pilot. Madame Oumansky is looking on. At a reception held at the Embassy July 27 for the flyers, Oumansky translated the story of the flight for the benefit of aviation officials in the capital. Photo courtesy of American Airlines.

Meanwhile it appears that the Post Office Department has plans for advertising the Memphis-Birmingham route for bids early in the fall.

Carleton Putnam, president of C. & S., announced from St. Louis on Aug. 9 that a third schedule will be added between Chicago and New Orleans on Sept. 1, leaving Chicago at 4 p. m. and New Orleans at 3:30 p. m., affording much more convenient passenger schedules. The schedule will be known as "The Rainbow." This is the first time that there have been three daily trips each way between the Great Lakes and the Gulf port. The line has five Lockheed Electras in service.

PA. COUNCIL NAMED

Gov. Earle Appoints Members of State Aviation Council

Harrisburg, Pa., Aug. 1—Governor George Earle of Pennsylvania has appointed the members of Pennsylvania's new State Aviation Council, as provided by the last legislature.

Appointees are: J. Griffith Boardman, Secretary of Revenue and chairman; Harry Magee, Bloomsburg; Alford Williams, Jr., Gulf Oil Co., Pittsburgh; W. Wallace Kellett, Kellett Autogiro Co., Philadelphia; and George Brew, Lycoming Co., Williamsport, and Lester Arnold, of Pennsylvania Central Airlines. Cammy Vinet, chief of the state's board of aeronautics, will act as "technical adviser."

The first meeting was held Aug. 12.

Obituaries

JACK L. MADDUX, pioneer of air transportation on the Pacific Coast, died in New York City on July 26 of a heart attack. He was 49 years old.

Born in Cherokee County, Ala., Maddux went to California in 1906. In 1910 he entered the automobile business and in 1922 became president of Maddux, Inc., automobile dealers. Becoming interested in aviation, he organized the Maddux Air Lines, operating first between Los Angeles and San Diego, and then to San Francisco. In 1929 he organized his company as Transcontinental Air Transport and added eastward service to Winslow, Ariz., where connection was made with train service.

It was this venture that had the backing of Henry Ford, and Ford planes were used. It was through Maddux's influence that T.A.T. signed Lindbergh as technical adviser and a combination of air-rail service followed between New York and Los Angeles. In 1931 T.A.T. and the Kansas City line of Western Air Express merged to form Transcontinental & Western Air, and shortly thereafter Maddux sold his controlling interest to Pennsylvania Railroad, retaining stock in the company. Several months ago he formed a company to handle an electric brake device to make stopping of airplanes easier, and was engaged in marketing the device when he died.

Bureau Announces Exhaustive Investigation of 2 Fatal Accidents

Post Office May be Charged with "Pushing" Pan American-Grace; Bureau Appoints Top Men for Inquiries

Hard on the heels of the Pan American-Grace crash twenty miles west of Cristobal, Canal Zone, on August 2, came the Eastern Air Lines crash at Daytona Beach early on the morning of August 10, giving the new administration of the Bureau of Air Commerce its first big headache of airline disasters.

Both crashes hit the headlines of newspapers in the usual big way, but although they may be associated in the public mind with the series of crashes of last winter, they were both quite dissimilar.

That the Department of Commerce was fully cognizant of the importance of the Pan American crash was evidenced by the appointment of a first-line three-man committee composed of Miller C. Foster, assistant to Col. J. Monroe Johnson, Assistant Secretary of Commerce; Ed L. Yuravich, chief of foreign airline inspection and one of the most dogged, persistent and able inspectors on the force; and Roy Keeley, airline inspector.

It is probable that the Post Office Department will figure in the investigation, for it is the feeling of some observers that it was the Post Office which insisted on Pan American-Grace flying a schedule which terminated after dark at Cristobal, with no airway aids available.

Arrives After Dark

Pan American in all of its divisions has had a good operating history. Only daylight flights have been flown. However, on July 15, a new schedule was put in force which called for the arrival of the northbound clipper at Cristobal at 7:10 p. m. Since this is a twice-a-week schedule, the fatal crash occurred on one of the first trips. The arrival time is not particularly bad during the summer except during bad weather or when the plane is late, as apparently was the case on August 2.

Because of the presence of two Department of Commerce officials on the clipper, a Sikorsky S-42, it is expected that the investigation will be unusually exhaustive.

Eleven passengers and a crew of three were aboard at the time. Naval vessels hurried to the scene. Among the items recovered were two bundles of mail, one uninflated rubber lifeboat, two life preservers, five seat cushions, a container of ice cream, and a small rug.

Those aboard the plane were: Rex Martin, former Assistant Director of the Bureau of Air Commerce; G. Q. Caldwell, an inspector for the Bureau of Air Commerce; Thomas Wakely, National City Bank of New York; Oscar Miller, Ford Motor Co.; Isadore Souza, Ford Motor Co.; P. W. Kumle, enroute to Los Angeles; Ernest Wood, an employee of the line; Mrs. Amy Levering, wife of an employee of the line; her son, James, and her daughter, Jessie; Stephen S. Dunn, pilot; Lawrence Arnold Bickford, co-pilot; and Hermaniez Canseco, steward.

Bureau Men

Rex Martin had been sent to Latin America as aeronautical adviser after the resignation of Eugene L. Vidal as director of the Bureau of Air Commerce last March. Caldwell, formerly a pilot for the old American Air Lines between Atlanta, Cincinnati, and

Cleveland, was returning to Miami after having inspected United States air operations in South America.

Capt. Harold Harris, vice-president of the Pan-American-Grace line, stated on August 5 that he did not believe the craft had been struck by lightning. He said that the Santa Maria might have struck the water at high speed and that a spark could have caused an explosion. However, naval vessels salvaged part of the center wing with the gas tank intact.

The Eastern Air Lines crash occurred at 4:40 a. m. with a southbound Chicago-Miami fourteen passenger Douglas DC-2. Four were killed when the plane's undercarriage was caught in an emergency power line which apparently had been strung up during the night by the Florida Power and Light Company. It is probable that an important angle in the investigation will be the determination of responsibility with regard to the power line, since the approach at the south end of the Daytona Beach field is normally clear.

Mulligan Heads Board

The Department of Commerce announced that the investigating board will be composed of Denis Mulligan, chief of the regulations and enforcement section of the Bureau; Airline inspector Robert L. Hazen, of Newark; and airline maintenance inspector George L. Lossow, also of Newark. Technical advisers were named as Lowell S. Harding, airline inspector of Cleveland, and Florida State Aviation Director H. C. Whitney.

It was the first passenger fatality in the nine-year history of Eastern, during which its passengers covered 200,000,000 passenger miles. Paul H. Brattain, vice-president of the line, immediately flew to Daytona Beach to aid the inquiry.

Flight Capt. Stuart G. Deitz, veteran pilot of Baltimore, was at the controls. He died instantly. Robert Rex Reed, of Miami, co-pilot, also died immediately. The two passengers killed were J. Triana, of Mexico City, and J. M. Philpots, of Kingston, Jamaica.

Eastern resumed flying into Daytona Beach only recently on completion of improvements to the airport. There are three paved runways, the longest about 3,000 feet and the shortest, a north-south runway, about 2,400 feet. It was on the short runway that the plane had landed and took-off.

At the south end of the field, where the accident took place, telephone and power lines have been placed underground. During Florida's rainy season, however, short-circuits often occur because of the marshy character of the ground and because the airport is just about at sea level. Once before the telephone company took its lines out of the ground and strung them on temporary poles above ground, creating a hazard. According to newspaper reports, the power company had had trouble from this same source and during the night had lifted the lines above ground.

Pete Dygert, manager of the airport, charged that officials of the field were not notified of the power line.

A few seconds after the transport took to the air, it seemed to stagger,

Crowley Likely to Deny Plane Leasing

Although Post Office Solicitor Karl A. Crowley had not issued a decision on the hearings held July 29 and 30 to test the legality of the equipment leasing agreement between United Air Lines and Western Air Express, indications were as this issue went to press that he would disapprove the agreements.

Although it had been expected that no airline would oppose the agreements, a few days before the hearing both Transcontinental & Western Air and American Airlines decided to oppose on grounds of the Air Mail Act of 1934. Testifying for the agreements were Alvin Adams and W. A. Patterson, presidents respectively of Western Air Express and United Air Lines. Capt. Eddie Rickenbacker, general manager of Eastern Air Lines, testified in favor of the agreements, and C. Bedell Monro, president of Pennsylvania-Central, sent a telegram favoring the issue.

The agreements in question were made by Western Air and United so that through sleeper service could be afforded between Chicago and Los Angeles without necessity of having passengers change planes at Salt Lake City. UAL sleepers would be run through on WAE's line, and vice versa, each line using its own personnel on its own route.

It is probable that if the Post Office disapproves the agreements, as being contrary to existing law, that the UAL and WAE attorneys will seek jurisdiction of the Interstate Commerce Commission.

NO UAL DECISION

Hearing Held on 2nd Camden Schedule; TWA Opposes

Hearing was held before Post Office Solicitor Karl A. Crowley on July 28 on the legality of United Air Lines' new second flight between Camden, N. J., Allentown, Pa., and Cleveland, using Camden as a terminus. TWA protested the new schedule on grounds that it violated the Air Mail Act of 1934.

Up to press time Mr. Crowley had made no decision. At the hearing Gerald Brophy, counsel for TWA, represented that line, placing John B. Walker, vice-president in charge of traffic, on the stand. Herbert Bingham represented United Air Lines and placed P. M. Willcox, secretary of United Air Lines, on the stand. Alfred Wolfe, representing the city of Philadelphia, testified in favor of the new schedule, as did also a representative of Camden.

Aviation Radio Talks

Los Angeles, Aug. 4—Through the radio division of the University of Southern California, Alpha Eta Rho, the international aviation fraternity, is sponsoring a series of twelve aviation broadcasts over KHJ and the Mutual Coast network each Monday afternoon from 2:15 to 2:30. The broadcasts are under the direction of Earl W. Hill, chairman of the department of commercial aviation, and founder and national president of the fraternity.

then it nosed down to the ground, plowing up a wide area. Both engines were thrown clear, one catching fire. Deitz was thrown clear. Five passengers, including the flight steward, were injured.

FEEDER AIRLINES TO START SEPT. 1

Passenger and Express Service to Operate in New England, N. J. and Pa.

The Airline Feeder System, Inc., will begin operations with passenger and express service on or about September 1 with two airline networks feeding into major transcontinental lines.

With general headquarters in the Graybar Building, 420 Lexington Avenue, New York City, the service intends to draw passengers and express out of the smaller cities within a 200 mile radius of Newark to connect with trunk line schedules.

Alton B. Sherman is president, and other officers are: David W. Harris, vice-president; Robert B. Winslow, treasurer; R. T. C. Leatherbee, secretary; Robert B. Bell, assistant treasurer and assistant secretary; Barclay K. Douglas, director, and George B. Cluett, III, director.

Tri-motored Stinson A transports have been purchased and are completely equipped with all necessary aids to navigation. Each plane will be manned by a pilot and a co-pilot, the latter acting also as steward.

"The Airline Feeder System, Inc., has been given full hearted approval and promises of full cooperation from both cities served and the major airlines," Mr. Sherman said. "The enthusiasm shown by the cities on the pilots' familiarization flights of the past week far surpass expectations and is a very heartening sign for the success of the line. The main airlines have felt the necessity of this service for the past year or more.

AFS will operate out of Newark on two divisions, one northeast, making stops at Bridgeport, New Haven, Meriden, Hartford, all in Connecticut, and at Springfield, Mass., and returning via these cities to Newark. There will be two flights on the northeast division each day, one leaving at 7:30 a.m. and returning to Newark about 10 a.m. The second flight will be made in the late afternoon and will return with passengers and express for transcontinental and southern lines.

The western division will leave Newark about 11 a.m., making stops at Trenton, Camden, Wilmington, Lancaster, Harrisburg, Reading, Allentown, Trenton and then into Newark.

AFS will feed passengers and express to American, Eastern United and TWA at Camden; TWA and Pennsylvania Central at Harrisburg, Pa.; United Airlines at Allentown, and all major lines at Newark.

Single-Engine Feat at Santa Fe Airport

R. H. Herrnstein, traffic manager for Continental Air Lines (Denver-El Paso), reports a performance test with one of the line's new twin-engined six-passenger Lockheed 12's which probably surprised even the Lockheed people.

A take-off was made in the middle of a June day from Santa Fe airport (7,200 feet and highest airport in U. S. approved for airline use) with full gross passenger and fuel load on one motor. A ceiling of 9,000 feet was reached and maintained, and by dumping surplus gas an altitude of 12,000 feet was reached and maintained. The line expects to be given the highest government rating ever issued as a result of these tests, which were made with Bureau of Air Commerce inspectors on board.

Sikorsky's Flying Boat Bomber

Experimental Patrol Ship for Navy has Long Range and Heavy Carrying Characteristics; Largest of Its Kind in the U. S.; Ready for Test Flights

The largest flying boat bomber yet constructed in this country was taken out of the assembly room of the Sikorsky Aircraft Division of United Aircraft Corp. on August 6 and was to be test flown as this issue went to press.

Built for the Navy and designated as the XPBS, the flying boat represents one of the most powerful bombing planes in this country, having a military load carrying capacity comparable with that of any known existing airplane.

The XPBS will also have the usual long range demanded of Navy patrol bombers, of which the twin-engine Consolidated PBV patrol ships are an example. The Consolidated patrol boats recently flew nonstop from San Diego to Honolulu and also from San Diego to the Canal Zone. The new flying boat was developed as part of the Navy's policy to explore the value of such ships in the national defense.

Relatively few details of the plane are available since the strictest secrecy has surrounded its construction. Its size, however, may be seen from the photograph on this page. Several years of work have gone into construction and the mock-up alone, constructed of wood and fabric, took six months to complete.

Every important part of the airplane has been static tested to destruction, and safety factors are said to be far in excess of requirements.

The XPBS is a four-engine, all metal, high wing, full cantilever monoplane flying boat of new design. It is powered by four Pratt and Whitney twin Wasp engines of 1,050 horsepower each, and is equipped with Hamilton Standard constant speed propellers.

Fully Equipped

Every known approved device for safety and ease of operation is included in the construction of this airplane. Aileron and flaps are of all-metal construction, fabric covered, with the full trailing edge flap permitting rapid take-off and slow landing speeds. A complete radio compartment is installed with radio equipment comparable to that installed in a destroyer. Sound-proofed throughout and equipped with commodious living accommodations for the crew—a mechanic's workshop, galley with electric stove, water distiller, and dry ice refrigerator—sustained operation with the XPBS is possible and the physical endurance of the personnel increased.

While strictly a flying boat, provisions are made for the carrying of beaching gear to facilitate beaching, docking or ramping wherever it may be flown.

The XPBS exceeds previous Sikorsky commercial flying boats in weight by some five to six tons. While previous Sikorsky flying boat designs have employed the wing up and above the hull and used semi-cantilever strut bracing, the wing of the new Sikorsky patrol bomber is full cantilever, and flush with the top deck of the hull, and because of the height of the hull provides ample clearance for propeller operation.

Armament consists of bow, rear and



Exclusive first photo of the XPBS just after it had been taken from assembly room and before test flying.

center gun turrets incorporating many new features in armament design.

A complete 110-volt electrical system has been installed, which generates power for the electrical units such as the radio and electrical appliances in the galley. An auxiliary gasoline engine drives the generator supplying the electrical output. There are thousands of feet of electrical wiring, all wire being carried in conduits and through junction boxes. A complete telephone system makes possible communication by voice from any point of the airplane.

Trial flights will continue during the summer before the flying dreadnaught will be delivered to the Navy Department.

Braniff May Shift Routes in Southwest

Oklahoma City, Aug. 6.—Another shift in air routes in the Southwest is in the making with a probable re-routing of one of Braniff Airways' Dallas-Amarillo schedules by way of Oklahoma City. Both schedules go through Wichita Falls, Texas, at present.

It is believed that Braniff may be making this move to block a move by a Southwestern financial interest to start a Denver-Amarillo-Oklahoma City-McAlester-Shreveport-New Orleans airline. There is also a probability that Braniff will seek extension of its air mail route from Amarillo to Pueblo, Col., giving Denver a through connection to eastern Texas and Oklahoma, and opening up the way toward settlement of the differences now existing on the proper route for a Denver-Kansas City airline. It is understood Pueblo, which has wanted a line extending east to Wichita, would be satisfied with this arrangement.

Mead Gets Degree

George Jackson Mead, vice-president and chief engineer of United Aircraft Corporation, received an honorary degree of Doctor of Science from Trinity College at the commencement exercises in June, in recognition of his outstanding contributions to the science of aeronautics.

Terminal Ready

San Francisco, Aug. 4.—With furnishing and equipping of the municipal airport's new \$142,000 administration building well under way, an exodus from the old temporary frame structure has begun. United Air Lines has already moved its offices into the new building. B. M. Doolin, airport manager, reports that the control tower is the most modern on the West Coast with all of the latest radio and weather equipment installed.

"TELE-SALE" FOR U. A. L.

New Reservations System Introduced at San Francisco Terminal

San Francisco, Aug. 4.—United Air Lines has established a new "Tele-Sale" system in the reservations department at the recently opened administration building. The new system was placed in use on transfer of the reservations department from the old building to the new.

All seat space is controlled by one man under the new system. This man advises the salesman as to space available. The salesman in turn advise the patrons and carry on all necessary negotiations with them. A teletype is at hand, with special operator, to rush messages to and from distant points along the various routes. In the change-over from the old to the new system, 386 reservations were transferred without a hitch.

General Air Express

June was the best month this year for General Air Express, affiliated express company of TWA, E. A. Hecker, general express manager, reported on Aug. 9. A 6 per cent gain was recorded over June a year ago, with a 37 per cent increase reported for the first six months as against the same period in 1936.

Hangar at Sidney

Sidney, N. Y., August 5.—A new hangar for the Municipal Airport here has been almost completed by the WPA. Although the originally estimated cost was \$23,000, only \$15,000 has been spent. The hangar will house six cabin planes. The WPA also graded the landing field around the new building.

SCHOOL NEARLY FINISHED

Aero I. T. I. to Be Ready for Fall Term

Los Angeles, July 20.—The new \$500,000 plant of the Aero Industries Technical Institute, intended to be one of the finest vocational training schools in the world, is almost completed. It is located at 5245 San Fernando Road and is comprised of four buildings on a five-acre campus. Work is being rushed to enable 500 students to enter for the fall term.

All buildings are ultra-modern, earthquake-proof, and have indirect lighting. A spur railroad track will insure speedy receipt of new equipment.

The school will train men to meet the pressing demand for skilled craftsmen in the aircraft industry.

Robert E. Gross, president of Lockheed Aircraft Corp.; John K. Northrop, president of the Northrop Corp.; and C. A. Van Dusen, vice-president and general manager of the Consolidated Aircraft Corp., compose the Institute's advisory board. They will direct the supervision of courses and the selection of equipment.

Manager of the school will be James L. McKinley, well known vocational school director in Southern California.

The school will be known as the Aero I.T.I.

American One-Stop L. A.-Newark in '38?

American Airlines is planning a one-stop transcontinental scheduled flight operation sometime in 1938, according to reports received from several Southwestern sources. The airline has been dickering with both Oklahoma City and with Little Rock, Ark., for enlarged terminals.

The line would use a DC-3 flagship, flying non-stop to some such city as Oklahoma City or Little Rock, and then continue non-stop to Washington or Newark, probably the latter city. Several flagships have been flown non-stop from Los Angeles to Oklahoma City. The line wants "mile-long paved runways" for its one-stop airport.

National Air Race Classic Sept. 3-6 With \$81,800 Prize Money for Draw

The 1937 edition of the National Air Races, will be held at Cleveland Municipal Airport Sept. 3 to 6 inclusive. This year the Races carry \$81,800 prize money.

Three main events are listed: the Vincent Bendix Trophy Race, a free-for-all transcontinental speed test from Los Angeles to Cleveland Airport; the Charles E. Thompson Trophy Race, a closed course race; and the Louis W. Greve Trophy Race, for motors of 549 cubic inches or less. These three races will take approximately \$65,000 of the total prize money.

It is expected that Haizlip's record of 245 miles per hour for the Bendix Race, established in 1932, will be easily broken. Col. Roscoe Turner will have two ships available for competition. Frank Fuller, west coast flyer, is going to pilot one of the new Seversky Fighters, which was recently reported as having flown 320 miles an hour without undue pressure. Louise Thaden, who last year gained the distinction of being the first woman to win the derby, will be in again. The five pilots who make the best speed to Cleveland will share \$20,000 and the woman flyer with the best speed will receive \$2,500 above anything else she may win.

The total prize money for the Thompson Race has been increased to \$28,000. Winners of the first five places in this race will also share \$20,000 with a special prize of \$2,000 for a winning speed in excess of Michel Detroyat's 1936 record of 264.261 miles per hour. Detroyat, French entry, established the record in a Caudron-Renault. The Thompson Race this year will be a 200-mile event, 20 laps of 10 miles and will bring together in the finals the 10 fastest ships in the entire meet, regardless of size or rating.

Some of those expected to enter the Thompson Race are Col. Turner, whose "57" has been rebuilt; Roger Don Rae, flying a Keith-Rider; R. A. Kling in a new Folkert Special; Harry Crosby, who has rebuilt his Crosby Special; and Earl Ortman, with a new twin-row Wasp Junior engine in his Keith-Rider.

Clifford W. Henderson, managing director of the Races, has announced a series of qualifying speed trials through which any ship that is worthy may enter. The closing date for entries is August 20.

The United States Navy will send a squadron of 18 fighting planes from Norfolk, the Marine Corps a 12-plane dive bomb squadron, and the Army Air Corps 18 pursuit planes from Selfridge Field, Ala., as well as one of the new four-engined Boeing bombers.

Many pilots, technicians, aviation executives, and national and foreign aviation dignitaries, will be among the thousands of spectators.

The 1937 Races will serve to inaugurate and dedicate the new \$3,300,000 Cleveland Municipal Airport, constructed by the city of Cleveland and the WPA. The airport embraces 1,040 acres and has a paved landing surface of 85 acres, which is equal in extent to a two-lane highway 36 miles long. The paving is 10-inch asphalt-bound macadam and asphaltic concrete.

The 400-foot grandstand, known to all who have attended the Races, has been moved 2,000 feet west and 1,000 feet north of its old site in order to eliminate a hazard to planes approaching the field from the west for a landing. The auto parking area next to the

Stadium will now accommodate 30,000 cars. The WPA has spent more than \$3,000,000 on the new airport and the city of Cleveland has contributed \$125,000.

F. C. Hall, backer of Wiley Post on his first round-the-world flight, plans to enter the Bendix race with a gas stop at Oklahoma City, his former home. The Lockheed will be flown by Milo Burcham, Hall's personal pilot. Mrs. Hall will be in the plane. This marks the first venture back into racing aviation that Hall has made since his split with the late Wiley Post some years ago. His monoplane is named "Villa" after his second wife.

Western Air Takes Over N.P.A. on Aug. 1

Salt Lake City, Aug. 1—Western Air Express formally took over operations of National Parks Airways today and N.P.A., one of the earliest airlines in the nation, goes into history. Western Air now operates border to border—San Diego to Great Falls, Mont.

Nine years ago A. W. Stephenson and Ray T. Elsmore were at the controls of the first operated airplanes carrying mail, passengers and express for National Parks. Yesterday, July 31, Stephenson and Elsmore were at the controls of the final north and south bound flights of N.P.A., and they flew today the first schedules under the banner of Western Air Express.

N.P.A. inaugurated service August 1, 1928 between Salt Lake City and Great Falls, flying a tough mountainous region with single-motored Fokkers. In 1931, two schedules a day were operated. Boeing 247's were used starting 1934. In nine years of operations, N.P.A. has flown more than 5,000,000 miles and nearly 6,000,000 passenger miles. It has carried 30,000 passengers, over 20 tons of express, and well over 500,000 pounds of air mail. Alfred Frank has served as president throughout the entire nine years and will be associated with the new merged company.

Western Air will probably run to Edmonton, Alberta, on a reciprocal service with a Canadian airline when negotiations are completed.

Cub Meet August 28-29

Lock Haven, Penna., August 6.—The "Cub Flyers Club," employs flying organization at the Taylor Aircraft factory in Lock Haven, Penna., will hold its Second Annual Air Show on August 28 and 29. Ted Weld, salesmanager of the company, has announced that the new factory will be open for public inspection on the afternoon of August 28. Visitors will have an opportunity to see the entire sequence of modern aircraft mass production. Plans have also been laid for a "Cub Rendezvous" and invitations are being extended to Cub flyers and pilots throughout the United States for a "get together" at the new factory.

NELSON TO BRANIFF Heads Fort Worth Division After Resigning from American

E. Leonard Nelson, for many years an airline traffic man in the Southwest, joined Braniff Airways on July 15 and has been assigned to the line's Fort Worth division. He recently resigned as district sales manager in Texas for American Airlines.

Nelson began airline work with the Southwest's first commercial transport system, Texas Air Transport, in 1929. Since that time he has become one of the best known transportation men in the business throughout the Southwest.



WRIGHT GETS DEGREE Knox College Awards Doctor of Science to Engineer

T. P. Wright, vice-president of the Curtiss-Wright Corporation in charge of engineering, was recently honored by Knox College, Galesburg, Ill., by being awarded the "Honorary Degree of Doctor of Science" for "meritorious service in aeronautics," according to word from the Curtiss-Wright Corporation.

Mr. Wright, internationally known as an aeronautical engineer, has also just received word from London that the Royal Aeronautical Society has elected him a Fellow of that Society.



Personals

M. W. Landis, vice president in charge of operations of the Wyoming Air Service, married Miss Mary Lee Schooley of St. Louis on July 16.

Ernie Code, representative at Seattle for Canadian Airways, is to succeed Roy A. Roos as district traffic manager of the Northwest Airlines, with headquarters at Spokane. Roos has tendered his resignation effective Sept. 1.

E. E. Wyman is inspecting the equipment and service of the Pacific Alaska Airways, of which he is vice president. Wyman is assistant to the president of Pan American, which owns Pacific Alaska Airways.

Clarence E. Fleming has replaced Parker Brook Sturgis as assistant to John B. Walker, vice president—traffic, of TWA at the Kansas City base. He has had a long experience as traffic manager with National Air Transport, Safeway Airlines and American Airlines.

Three United Air Lines employees at Omaha have been transferred to Cheyenne. Ralph Reed, division supt. announced. They are J. S. Anderson, chief engineer for the division; Robert Baker, of the radio department; and Fred Dwyer, of the dispatch office force.

BEHNCKE ASKS AIR LINES, "HOW COME?,"

Wants to Know Why Operators Oppose His Bill When He Boosts Theirs

David L. Behncke, president of the Air Line Pilots Association, addressed letters to the presidents of the airlines early in August asking why "the airlines are actively opposing the McCarran-Crosser Safety Bill" which the pilots' association has endorsed.

Mr. Behncke's letter reads: "The Air Line Pilots Association realizes that the airline operators are supporting the McCarran-Lea bill. The pilots have given their support to this measure ever since it was first introduced by Senator McCarran.

"It now appears that the airlines are actively opposing the McCarran-Crosser Safety Bill in Washington. This is the bill in which the pilots are vitally interested.

"Few will disagree with the contention that safety regulations belong in the same Government agency that controls rate fixing and problems of necessity and convenience. Furthermore, the pilots are of the opinion that proper safety regulation is just as important to the airlines as it is to the pilots. For this reason we cannot understand why the air carriers are opposing the safety bill.

"We find it difficult to explain to our own friends in Congress why we actively support the McCarran-Lea legislation favored by the airlines when the airlines are actively opposing the safety measure.

"Your reaction to this very important development in the industry's present legislative program will be deeply appreciated."

Mr. Behncke took this step, it was learned, following reports to him that opposition to the safety bill was coming from some airline source. The safety bill would remove airline regulations from the Bureau of Air Commerce to the Interstate Commerce Commission.

At the time of going to press Mr. Behncke had only had time to receive a few replies but these airline presidents said they were unaware of any such campaign. Mr. Behncke reported that the opposition to the bill had been pretty well stopped by his letter.

ENYART INJURED

N. A. A. Official Critically Hurt in Air Reserve Crash

Lieut. William R. Enyart, Air Corps Reserve, has been reported "out of danger" following an airplane crash at Fort Hoyle, Md. on August 1. Lieut. Enyart sustained two fractures of the jaw, five broken ribs, and burns.

Major Guy Hart Moates, U. S. A. Reserve, flight surgeon at Langley Field, Va., was burned to death in the accident. The Northrop Army plane in which the two were returning to Langley Field, was a double cockpit type known as A-12. It failed to clear a tree during the take-off, sideslipped and crashed in an open space. Immediately it burst into flames and the gasoline tank exploded. Major Moates was trapped but Lieut. Enyart either jumped or was thrown clear.

Lieut. Enyart is secretary of the contest board of the National Aeronautical Association, and is one of the best known and best liked pilots in aviation. He has taken a leading part in air racing activities for several years. He will be out of the running for three or four months.

HAVE YOU A PRODUCTION PROBLEM?

Let us help you solve it. Our stainless steel rudders, ailerons, surfaces and tanks are now going into U. S. Army regular service.

THE STAINLESS STEEL SPECIALISTS

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Incorporated Bristol, Pennsylvania Phone Bristol 867

B. A. C. Lists Approved Airway Aids

First of Eventual \$7,000,000 Improvement Program Gets Under Way With Announcement of Locations of Projects to be Built from 1938 Fiscal Funds

The Bureau of Air Commerce has released a list of projects so far approved under the 1938 fiscal year program as part of its plans for expenditure of about \$5,000,000 of the \$7,037,800 which the Department is authorized to spend or obligate for the establishment of air navigation aids.

The Act appropriated \$3,037,800 for the purpose for the fiscal year 1938, which began July 1, 1937, and authorizes the Department to obligate itself for an additional \$2,000,000 prior to July 1, 1938, plus a further \$2,000,000 prior to July 1, 1939.

Much of the work approved to date is adoption of radio stations of simultaneous transmission of both voice and radio range signals on the same frequency. With simultaneous transmission the radio range signals transmitted to keep the pilot on his course are sent continuously. Voice broadcasts are made from time to time on the same frequency, with the range still in operation, and the pilot may listen to whichever form of transmission he requires at the moment.

A further phase of the improvement plan, as described in previous issues of AMERICAN AVIATION, provides for the equipment of all major radio stations now having "loop" type antennas, with vertical radiator antennas which improve the transmission of directional signals to airmen and also are necessary for simultaneous transmission. In addition, several intermediate landing fields will be enlarged, improved or relocated, and lights on sections of four airways will be relocated in order to provide straight line courses.

The projects so far approved are:

Radio

New full powered simultaneous weather broadcast and radio range stations will be established at Brownsville, Tex., Delta, Utah, and Bloomington, Ill.

Medium powered stations having somewhat less coverage, but equipped for simultaneous transmission of radio range signals and voice communications from a five tower vertical radiator system, will be established at the following places:

Abilene, Tex.
Anton Chico, N. M.
Baker, Oreg.
Bakersfield, Calif.
Belgrade, Mont.
Chehalis, Wash.
Columbus, N. M.
Corpus Christi, Tex.
Dallas, Tex.
Denver, Colo.
Dubois, Idaho.
Eugene, Oreg.
Florence, S. C.
Great Falls, Mont.
Indio, Calif.
Kingston, Calif.
Lansing, Mich.
Malad, Idaho
Meridian, Miss.
Montague, Calif.
Palmdale, Calif.
Parco, Wyo.
Peoria, Ill.
Roseburg, Oreg.
Sacramento, Calif.
Savannah, Ga.
Smith, Grove, Ky.
South Bend, Ind.
Tampa, Fla.
Toledo, Ohio.
Waynoka, Okla.
Wendover, Utah.
Whitehall, Mont.

Full powered stations now equipped with loop type antennas at the following points will be converted into the

simultaneous transmission type with vertical antennas:

Alma, Ga.
Atlanta, Ga.
Boise, Idaho
Burley, Idaho
Charleston, S. C.
Chattanooga, Tenn.
Chicago, Ill.
Columbia, Mo.
Columbus, Ohio
Detroit, Mich.
Elmira, N. Y.
Goshen, Ind.
Indianapolis, Ind.
Jacksonville, Fla.
Miami, Fla.
Mobile, Ala.
New Orleans, La.
North Platte, Nebr.
Pueblo, Colo.
Raleigh, N. C.
Richmond, Va.
San Antonio, Tex.
Greensboro, N. C.
San Diego, Calif.
Spartanburg, S. C.
Spokane, Wash.
Titusville, Fla.
Washington, D. C.

The following stations will be relocated:

Moran, Kans., to Chanute, Kans.
Van Nuys, Calif., to Los Angeles, Calif.
Mt. Shasta, Calif., to Red Bluff, Calif.
Stations at Medford, and Portland, Oregon, and Seattle, Wash., will be moved to new sites in the same locality.

New Stations

The medium powered stations having loop antennas at Martin's Creek, Pa., and Fontana, Calif., will be replaced by new stations at Allentown, Pa., and Riverside, Calif., respectively, and equipped with vertical antennas and the simultaneous transmission feature for voice communication and radio range. Medium powered loop antenna stations at Camden, N. J., Erie, Pa., Idaho Falls, Idaho, Syracuse, N. Y., and Tucumcari, N. M., will also be converted to the simultaneous type.

New medium powered stations of the loop antenna type will be established at:

Acoma, N. M.
Charlotte, N. C.
Custer, Mont.
Golva, N. D.
Santa Ana, Calif.
Tintic, Utah.

At the following sites will be located low powered radio localizers transmitting directive signals from loop antennas, which serve as localizing guides for airmen within a radius of approximately 15 miles:

Austin, Tex.
Chesterfield, Tenn.
Dillon, Mont.
Galveston, Tex.
Grand Rapids, Mich.
Mormon Mesa, Nev.
Needles, Calif.
Pocatello, Idaho.
Rochester, N. Y.
Grantsville, Utah
Laramie, Wyo.
Macon, Ga.
Joliet, Ill.
Mt. Shasta, Calif.
Springfield, Ill.
Stampede Pass, Wash.
Tyler, Tex.
Utica, N. Y.
Vero Beach, Fla.

Radio ranges now located at Archbold, Ohio, Butte, Mont., Cherokee, Wyo., Milford, Utah, and Tacoma, Wash., will be converted to radio localizers of low power.

Non-directive market stations which serve to mark one particular point will be converted to low powered directive markets at Ardmore, Okla., Lafayette, Ind., Livermore, Calif., McCool, Ind., and Morse, Ill.

Fifth Tower Equipment

A fifth tower and radio telephone broadcast equipment will be installed at the following vertical antenna stations not now equipped for simultaneous voice transmission, and simultaneous operation will be provided:

Burlington, Iowa
Canadian, Tex.
Daggett, Calif.
Des Moines, Iowa
Milwaukee, Wis.
Rockford, Ill.
Rodeo, N. M.
Texarkana, Ark.
Tucson, Ariz.
Wink, Tex.

Ultra high frequency markers for airways traffic control use will be established as follows:

Chicago (Des Plaines), Ill.; Lansing, Ill.; Newhall Pass, Calif.; Oceanside, Calif.; Sandberg, Calif.; Sandia Mt. (Albuquerque), N. M.; Sante Fe Springs, Calif.; Sheridan, Ill., and three will be constructed in the vicinity of Newark, N. J.

The medium powered radio range station now at Buckstown, Pa., will be relocated to Somerset, Pa., and reconstructed with a vertical tower antenna system. A station of the same type will be constructed at Martinsburg, Pa., and a low powered range will be established at Pittsburgh, Pa., for service as an airport localizer. This work will be a joint undertaking of the State of Pennsylvania and the Bureau of Air Commerce, according to present arrangements.

All stations with vertical antennas, both new and old, are to be provided with simultaneous equipment and standby radio range transmitters for emergency use in case of a breakdown, standby power, and positive cone of silence markers which give the airman a positive signal, either by turning on a light on his instrument board or by aural signal in his headphones, as he passes over the station.

Field and Lighting Changes

Field and lighting improvement projects, in some cases, call for the establishment of entirely new facilities, while others call for improvement, relocation, or discontinuance. These projects will be amended from time to time and others added to the list as the program progresses. Specific items now planned are:

New intermediate landing fields at

E. Liverpool, Ohio, and Marshall, Mo.; enlargement of fields at Advance, Mo., Archbold, Ohio; Chesterfield, Tenn., Pittsfield, Mass., and Saugus, Calif. Enlarge or relocate: Livermore, Calif., and Wendover, Utah; improve or relocate: Kylertown, Pa.; improve: Oceanside, Calif.; relocate: Columbiaville, N. Y.; discontinue: Higginsville, Mo.

Beacons between Dana and Laramie, Wyo., on the Salt Lake-Omaha airway will be relocated to provide a straight-line course. A new field will be established near McFadden, Wyo., and those at Dana and Medicine Bow will be discontinued.

On the Goffs-Needles, Calif., section of the Los Angeles-Amarillo airway the intermediate landing field now at Goffs will be discontinued and a new one established at Needles. One beacon on this section will also be relocated.

Field and lighting facilities on the Las Vegas, Nev.-Milford, Utah, section of the Los Angeles-Salt Lake airway will be relocated to a straight-line course.

The intermediate landing field at Baker, Calif., on the same airway will be discontinued and replaced by a new field between Baker and Riggs.

All facilities between Pasco and Spokane, Wash., will be discontinued with the exception of intermediate landing fields for day use at Connell and Sprague, Wash.

Field and lighting facilities will be relocated to a straight-line course between Pittsburgh and Harrisburg, Pa., and beacons between McConnellsburg and Harrisburg, Pa., will be discontinued. Field and lights between Washington, D. C., and Pittsburgh, Pa., will also be relocated to a straight-line course. These two projects, according to present arrangements, will be performed in conjunction with the State of Pennsylvania.

Adds Flagships

Oklahoma City, Aug. 1.—American Airlines placed new 21-passenger Douglas DC-3's in operation today between Dallas and Chicago with four schedules a day. On July 28 C. R. Smith, American's president, brought the first Flagship through here and christened it Oklahoma.

Your Best Travel BUY is BY Braniff

Luxurious, Braniff-flown Douglas airliners serve Chicago, Kansas City, Wichita, Oklahoma City, Dallas, Ft. Worth, Austin, San Antonio, Corpus Christi and Brownsville. Braniff passengers enjoy the advantages and security of all modern, tested navigation aids, including automatic gyro-pilots, homing direction finder loops and dial-tuning, 10-frequency radio; luxurious cabin appointments; all comfort facilities; hostess service; meals aloft; fast, dependable schedules. For reservations and information, call Braniff, your travel agent, any telegraph office or leading hotel.



TWA'S 1 MILL BID APPROVED BY ICC

Post Office Awards Four New Contracts Without Incident; Operators to Start Soon

The Post Office Department formally awarded four air mail contracts late in July. Operations will start about Sept. 1 on two or three and all four should be in operation by October 1.

Transcontinental & Western Air, Inc., low bidders at one mill per airplane mile, was awarded the Dayton-Chicago and Winslow-San Francisco routes. Pennsylvania Central's bid of \$0.0000008 per mile was held legal and it was awarded the Washington-Buffalo route, and Wyoming Air Service was awarded the Cheyenne-Huron route.

Most interesting sidelight on TWA's one mill bid on Winslow-San Francisco was the decision of the Interstate Commerce Commission in finding no objection to the bid, at least from the legal angle. In the event that only one bid is received on a route, the Postmaster General is directed to submit the bid to the I. C. C. for examination and direction. This was done in TWA's case.

The I. C. C. decided that the law directed it only to examine bids on the basis of their possible excessiveness. A one mill bid could hardly be called excessive so the I. C. C. gave its okay with reservations—the reservations being that TWA could not make money on the route and hinting that if the law permitted, that body would object in the interests of safety.

"The ability and qualifications of this carrier to render the proposed service safely and efficiently is recognized," the decision said. "The rate bid by TWA in response to the advertisement was 1 mill per airplane mile. The proposed service of one round trip daily, except Sundays and holidays, results in annual flight mileage of 424,116 miles. On the basis of 100 percent performance, total compensation at the rate of 1 mill per mile would amount to \$424.12 per annum."

The decision said "it is a matter of general knowledge that reasonable operating costs" of such equipment as DC-2's and DC-3's "are much greater than the bid rate."

"The carrier would, of course, receive passenger and express revenues which would, in part, offset the operating costs, but those revenues, even though concededly much in excess of the maximum mail revenue the carrier could possibly receive, would not be sufficient, judged by past experience, to enable the carrier to operate the route at a profit during the three-year period named in the advertisement."

"The balance sheet submitted by the carrier with its proposals shows total assets and deferred debits of over \$10,000,000. On the liability side unappropriated surplus account shows a deficiency of over \$400,000. This loss would unquestionably be materially increased by the proposed operation during the period of the contract."

The decision also said that "It is apparent that, regardless of the requirements of the air mail service, the carrier plans to operate the route for transcontinental transportation in conjunction with route No. 2, and that it is willing to sustain the loss, inevitable under the bid rate, in order to obtain the operating rights over this route. Whether submission by an air mail carrier of a bid for an additional route, obviously for the sole purpose of obtaining operating rights, which it could

Copeland Sends Roper Sharp Reply On Latter's Airway Aid "Explanation"

Senator Royal S. Copeland (D-N. Y.) took sharp issue with Secretary of Commerce Daniel Roper's "explanation" of the Department's air navigation construction program in a letter which the Senator dispatched to the Secretary on July 28.

Without mincing any words, Senator Copeland took Secretary Roper to task for including projects from the 1936 and 1937 fiscal budgets in his report to the Senator of what the Department was doing in the way of constructing aids for the coming winter out of new funds made available by Congress on July 1.

The sharp interchange between the two officials took place as a result of the article in AMERICAN AVIATION on June 15 which stated that not a single additional air navigation aid would be established before next spring out of the new \$7,000,000 Department of Commerce appropriations for this purpose. Senator Copeland had requested from Secretary Roper a statement as to just what would be accomplished by this winter out of the 1938 appropriation. Secretary Roper's explanation was published in AMERICAN AVIATION for July 15 and was worded in such a way that the casual reader would have assumed that it was a complete denial of this magazine's previous article.

But Senator Copeland is not one to be fooled. He has had more to do with air safety than anyone in Congress and has gone into the subject exhaustively. He did not like the idea of the Department of Commerce attempting to refute AMERICAN AVIATION's article which had been obtained authentically from Department of Commerce sources. He found that Secretary Roper had actually listed in the 1937 accomplishments of his Department projects which former B.A.C. director Eugene L. Vidal had testified before Congress in February were completed out of the 1936 appropriation.

Senator Copeland's letter to Secretary Roper follows:

"Dear Mr. Secretary:

"Thank you for your letter of July 2, 1937, relative to mine of July 1.

"It is with regret that I must advise you that your acknowledgment does not answer the queries I made in paragraph two of my letter.

"I requested specific information based upon the 1938 appropriation for the Bureau of Air Commerce. The first half of your letter would indicate to the casual reader that the construction results therein referred to would be accomplished from the 1938 appropriation. Unless I am misinformed, however, the facts of the case are that the items set forth by you are from relief appropriations and/or from funds appropriated for your department for the fiscal years 1936 and 1937. I was already well aware of the facts relative to the use of funds of previous years, for they are set forth on pages 210 and 211 of the testimony of your department before the House Committee during the hearing on the Department of Commerce Appropriation Bill for 1938.

"As for the additional teletype, I am deeply disappointed. The Appropriations Committee of the Senate had attempted to furnish your Department with ample funds for completion of the teletype system throughout the length of the established civil airways. Your representatives, who appeared before the Senate Appropriations Committee, stated to us most definitely that a teletype system would be installed throughout the length of the civil airways. I now note that you are going to be shy approximately the 2,000 miles of teletype which I feared during the hearings you would be shy, but which I understood your witnesses to state would be taken care of.

"I believe that if you will restudy your letter of July 2, you can no longer feel in harmony with the last paragraph thereof. I regret that the action of your department has been the opposite of the results which you state are to be commended.

"Thank you for offering to furnish further information. I should be pleased to have a reply to the second paragraph of my July 1st letter.

Cordially yours,
ROYAL S. COPELAND"

The "last paragraph" which Senator Copeland referred to was Secretary Roper's comment that "Personally, I think the Bureau is to be commended for the prompt action which it has taken in effecting improvements in airway navigation aids during this year."

Col. J. Carroll Cone Honored



Bernarr Macfadden, the publisher and private flying enthusiast, was host at a testimonial dinner given for Col. J. Carroll Cone, formerly assistant director of the Bureau of Air Commerce, at the New York Athletic Club on July 22. In the photo above are, left to right: Capt. James Webb, president of the Greater New York N. A. A. Chapter; Howard Coffin, founder and first president of N. A. A.; Col. Cone; Mr. Macfadden; and Thomas A. Morgan, toastmaster, chairman of the board of the Sperry Gyroscope Company. Col. Cone is the newly-appointed manager of the Atlantic Division of Pan American Airways. Present at the dinner were Imperial Airways and other British officials, manufacturers and other aviation leaders.

not otherwise obtain because competitive with existing air mail routes, can be regarded as unfair practice or unfair competition within the meaning

of the Air Mail Act, need not be considered here. As previously stated, no request for hearing or other presentation has been received."

20-YEAR CONTRACT FOR GRAND CANYON

G. E. Ruckstell, Pioneer Airline Operator Over Scenic Area, Gets Big Concessions

Operating under a 20-year contract with the Department of the Interior, Grand Canyon-Boulder Dam Tours, Inc., took over on July 1 the construction, maintenance and operation of concessions within the Boulder Dam Recreational Area. Grand Canyon Airlines, operated by the corporation, is an important feature of the service.

Headquarters for the corporation is at Boulder City, Nev., but Grand Canyon Airlines operates from Las Vegas and Boulder City on the west to Grand Canyon, Ariz., passing over probably the wildest and roughest country served exclusively by one airline. G. E. Ruckstell, president of the corporation, is a pioneer operator in that area and has been operating a scenic air service over the Canyon for some years. Last July, 1936, scheduled operations were begun along the almost 200 miles. Four tri-motored Fords are among the equipment.

The National Park Service has set aside the Boulder Dam Reservation as a recreation center rather than as a national park. The area abounds in scientific and scenic interest.

Mr. Ruckstell will provide hotels, cabins and chalets for visitors, will provide air transportation, will build airports, provide motor launch service on Lake Mead, build boat docks, and provide general transportation service by automobile, truck, freight and mail carriers, and pack and saddle horses.

In addition to Mr. Ruckstell, others who will aid in the development are P. S. Webb, vice-president of the corporation, who was the first to provide hotel facilities in Boulder City during construction of the dam; Jim Kitner, operations manager of Grand Canyon Airlines, and Ed Campbell, Chief Pilot of the airline. Connections will be made with railroads and bus lines operating into the area.

The corporation under the contract will pay to the Government a nominal annual fee plus a share of the net profits in excess of 6 percent of the operator's investment.

The three major recreational areas to be developed immediately are at Boulder City and vicinity; Overton and St. Thomas toward the northern tip of the Virgin River arm of the lake; and at Pierce's Ferry in the southeast, the first logical crossing place on the lake below the Grand Canyon of the Colorado. Ruckstell has established an airport at Pierce's Ferry, equipped with radio station, notable for the fact that it is over a hundred miles by road to the nearest settlement.

Ruckstell's concessions include everything from the sale of gasoline and oil to souvenirs.

4TH U. S.-CANADA LINK

Central-Vermont to Carry Air Mail to Montreal Sept. 10

Central-Vermont Airways will begin carrying air mail on its route between Boston and Montreal on September 10. Charles P. Graddick, superintendent of the air mail service of the Post Office Department, announced August 6, thus affording a fourth direct air mail connection between the United States and Canada.

Since early in July Central-Vermont has been operating the route with passengers and express.

The Island Amelia Missed

Howland Island: Stench-Ridden, Rat-Infested, Lonely and Blazing Hot; World's Most Amazing Mid-Ocean Airport With Mile-Long Runway No Plane has Ever Touched

HOWLAND Island—a kidney bean in the middle of the broad Pacific—with two miles of runways one of which is almost a mile long—runways made of coral, guano and sand—and runways that have never been landed on by an airplane.

The story of Uncle Sam's island airport is one of the strangest sagas in all aviation history. It is replete with adventure, with vision, with international air rivalry.

It was the island Amelia Earhart missed. She was to have piloted the first landplane to light on the smooth, hard runways that lie only a few feet above the water's edge.

Far out in the Pacific—1,780 miles due south of Honolulu and 2,400 miles from New Zealand, is this tiny bean-shaped island measuring only a mile and a half long and a half mile wide. Nothing but water as far as the eye can see in any direction. Not a haven of any sort for a seaplane or a flying boat. Even boats can't come nearer than a quarter of a mile.

It's a visionary island airport with nothing but runways, birds, guano, rats, pigweed and a blazing sun.

Howland Island has the most beautiful runways and approaches of any airport in the world—and the most deadly.

Only landplanes can find a haven there—and yet the "haven" is a tiny speck on a vague trade route from the United States to New Zealand. It's a weird futuristic combination of the timeless ages of the sea and modern air transportation.

The runways are perfect—as spectacular a landing area as any pilot could want. There is nothing like it in all the world. And yet the airplane must battle against odds—first the vast distances and the deadly peril of water, and secondly the thousands, yes millions, of birds which are the bane of seafaring pilots.

Through the courtesy of Col. J. Monroe Johnson, Assistant Secretary of Commerce, and Fred D. Fagg, Jr., Director of the Bureau of Air Commerce, AMERICAN AVIATION is privileged to give to the aviation industry the first true picture of Howland Island, the mystery spot on the Pacific. Also, through the courtesy of the U. S. Navy, the Army Air Corps, and the U. S. Coast Guard, all of whom

waived military restrictions, this magazine presents on the following two pages the first photographs of Howland Island, its inhabitants, and the construction work entailed in building America's most prized and most isolated airport—the airport that has never seen a landplane.

The story of the runway building against tropical odds—Howland is almost directly on the equator—is made available by Robert L. Campbell, Bureau of Air Commerce airport expert, who joined with an expedition of Navy, Army and Coast Guard men to "modernize" Howland and make it ready for—well, first Amelia, and then the landplanes that someday may be streaming across the Pacific Waters on their way to and from Oceania, or four-engine bombers on a military mission.

Howland Island was exploited for guano deposits back in the last century. It was considered an uninhabitable spot of land, valuable only for the many thousands of tons of guano accumulated through a long period of years. Apparently United States citizens reached it first, but the British claimed ownership without colonizing. Several years ago both countries decided almost simultaneously that the island would be valuable for air commerce and national defense. The British started out for the island, but the U. S. beat them to it—by only a few days.

Perhaps a chronological survey is in order.

In March, 1935, William T. Miller, superintendent of airways for the Bureau of Air Commerce, instituted for the Bureau an expedition to certain South Sea islands and established colonists on Jarvis, Howland and Baker Islands to study surface meteorological conditions as applied to air transport in the Pacific.

On May 13, 1936, these three islands were placed under the Department of Interior by executive order of the President.

On June 22, 1936, an appropriation was made under a House Joint Resolution for the administration of the islands.

On January 8, 1937, the U. S. Coast

Guard Cutter *William J. Duane*, left Honolulu for the islands fully equipped with personnel and construction material for the building of an airport on Howland under supervision of Campbell.

Take Equipment

There were two five-ton tractors, a farm type harrow, concrete and steel roller, matlocks, axes, plows, cane knives, a field kitchen, flood lamps, radio transmitting and receiving equipment, and food and water rations plus a great many other items. Materials were supplied by the Department of Interior, the Army Air Corps, the Navy, and the Works Progress Administration in Hawaii.

It was as curious a crew as could be obtained anywhere. The men were all U. S. citizens, but among them were pure Hawaiians, Chinese, and mixtures of various races. The Army sent Capt. H. A. Meyer, Procurement Officer, and Lieut. Charles F. Brown, Air Corps Observer, in addition to a few others. The Navy sent Lieut. Charles L. Lee and David H. Ellsworth, Naval photographer. From the Department of Interior were You Fai Lum and Bak Sung Kim, student aerologists and radio operators, plus laborers.

Before reaching Howland, surveys were made for a possible landing field at Jarvis Island. The *William J. Duane* sighted Howland at 4 a. m. on January 22 of this year, and landing of the materials and equipment began after breakfast.

Now it is no easy job to land anything at Howland, much less tractors. Heavy swells are almost always present. Jagged reefs are exposed. There is not even a hint of a harbor. The only way to land is by boats and pontoons, riding the surf and watching one's chances to slip over without being wrecked in the process.

Getting the equipment onto the island was only the first of the troubles. One member of the crew stepped on a large sea urchin and suffered a badly lacerated foot. These urchins are poisonous and have long slim spines which break off in the flesh. The only effective treatment is chewing vigorously on the flesh.

The coral in the water is also poisonous and leaves permanent scars wherever it touches human flesh. In addition there is much poisonous seaweed so that only the Hawaiian members of the crew seemed to be expert in getting into the water at all.

The rim of Howland is about six to eight feet higher than the center, making the island an oblong bowl. The soil is sandy with outcroppings of coral and some alluvial earth in spots. There are an estimated 30,000 tons of guano in natural state remaining from the original diggings in the last century. Mounds of coral and guano are fairly numerous. The surface is rough and uneven, and covered with pigweed, a tough arid plant that grows to no great height.

The greatest hazard so far as landplane operations are concerned is the presence of thousands of birds that use the island for breeding grounds. These birds are constantly on the wing

and fly in great clouds day and night. They can be driven away with some effectiveness by shotgun blasts. The birds are Booby, Frigate and Tern. There are also two reptiles, the Gecko lizard and the Sanke-Eyed Skink, both harmless.

Vegetation is strictly limited. There



ROBERT CAMPBELL

are only stunted and nearly leafless growths of Kou trees and the pigweed, although the U. S. colonists have planted a few trees.

But the rats—well, there are literally hordes of them. The airport-building crew killed 500 to 1,000 rats a night by sinking a half-filled oil drum with water into the ground and sprinkling it with cracker crumbs. The rats would make for it immediately and the more that were drowned, the higher the water rose. By morning the drum would be filled to the brim with dead rats and they were burned each morning before breakfast by pouring gasoline over them and setting the whole works afire.

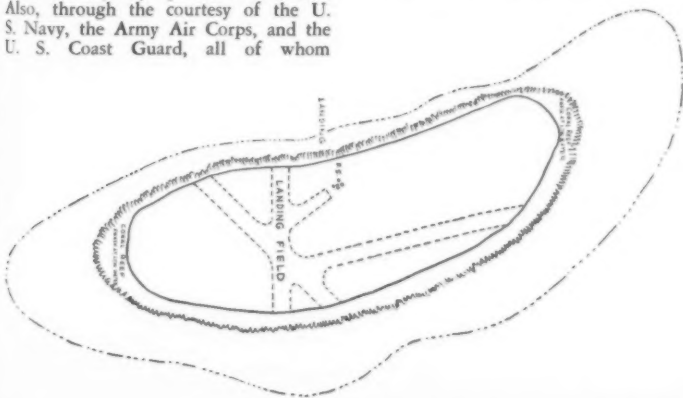
And the smell! That's a mild word, according to Campbell. One might as well say stink and be done with it. For the guano provides one of the most unsavory odors that can be found anywhere and the tropical sun only makes it worse.

Every member of the gang had to bathe several times a day. The wind blew guano dust all around and, it being very poisonous, each man had to bathe constantly to keep from breaking out with dangerous boils. And it wasn't just a matter of taking a dip in the surf, either, for shoes had to be worn to protect the feet from poisonous coral and even then just about every man returned with permanent scars on his legs.

There was no way of controlling the rats. They ran about everywhere. Each member of the gang had to wash his face clean every night, for if he didn't he'd wake up in the middle of the night with a rat licking his lips for particles of food—and this actually happened more than once.

One of the most interesting phe-

(Turn to page 20)



Map of Howland Island, drawn from a hydrographic chart, showing runways and the camp indicated at the end of the taxi-strip. The main 5,200-foot runway is north-south.



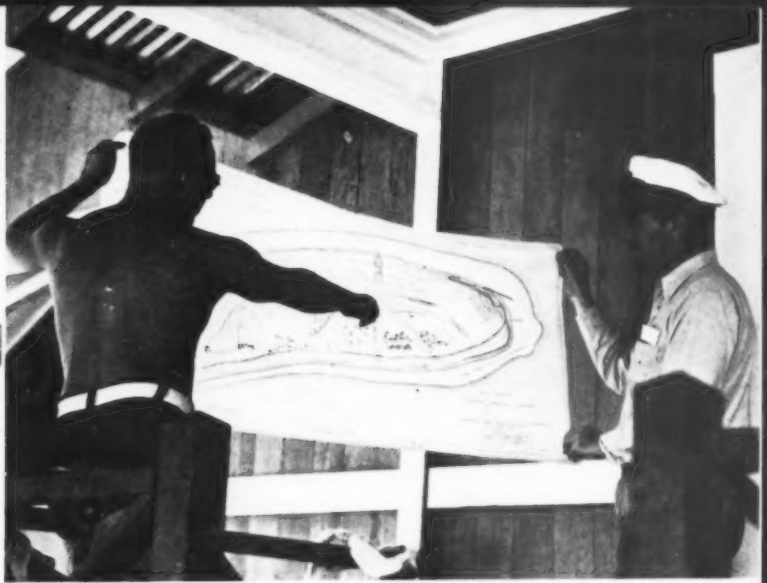
Top photo: Howland Island as seen from the top of the mast of the Coast Guard Cutter William J. Duane. Note surf on opposite side of the half-mile wide dot in the Pacific. Runways are the most prominent feature of the tiny island.



Lower five photos: The camera catches a tractor, just landed by pontoon, landing of other equipment, the partially-completed taxi-strip, and the construction camp. Amelia Earhart's camp which she never saw is in lower right.



Below
in the
placed
Hawaii
fourth



Howland Island

Below: Part of the expedition personnel. The four in the foreground are permanent U. S. colonists placed on the island. The two end men are pure Hawaiians. Second from left is a Chinese, and the fourth is a Portuguese-Hawaiian.



Top left is view of the 5,200-foot runway. Top right is Bob Campbell going over the map with Dick Black. Center photo shows gas supplies being landed for Amelia Earhart, and center left is an impromptu shower being built for Amelia. Howland Island is expected to play an important role in U. S. national defense.



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FORTNIGHTLY REVIEW

(Continued from page one)

tion commission is created to give closer attention to flight regulation than seems possible under the federal air commerce bureau alone. The state-financed governor appoints a state-financed aviation director and provides him with a state-financed airplane.

The state aviation director is usually the friend of the private flyers and other air space users of his own state—a sort of defensive Galahad on guard against the bureaucratic inroads from the federally-financed interstate regulatory bureau at the national capital. He is the fellow who usually helps the private flyer get a "break."

Now, just a word about private flying. There's going to be millions of them, mostly contact flyers, and free from unreasonable regulations. Sure they'll be safe—much more so than private automobile drivers! But in our opinion flight plans, reporting in and out, the hundred and one other sorts of policing and restricting that ambitious regulators can devise—aw nerfs! Why not make it as simple as A. B. C. for the private contact flyer?

A. License a private flyer after he demonstrates his expertness.

B. License his airplane and renew license frequently after inspection for safety.

C. Require him to carry liability and property damage insurance to cover damage to some other fellow's petunias.

D. Give him a sensible set of contact flying rules and be tough when some unsportsmanlike fellow violates them.

E. Otherwise tell him the air is his under 5,000 feet when he can see five miles and impress upon him by education that to violate these simple rules is just as foolish as running a car past a "stop" sign at a busy highway intersection.

Let private flying as well as scheduled air transport interweave itself intimately and unobtrusively into our economic and social life. Let intensive development of our nation continue at an accelerated pace under the influence of aviation.

Time to Wake Up

ALL of us have known that the nation's airports were far from adequate but with the Works Progress Administration spending some \$80,000,000 on improvements and cities spending large additional sums, it seemed that the job was moving forward as well as could be expected.

About three months ago the question of inadequate airports began coming to the fore again. Airlines were adding new and larger equipment, a natural and inevitable development of competitive air transportation. Airports that were entirely suitable for Stinson A's and Lockheeds were found to be wholly unsafe for fourteen-passenger Douglas DC-2 transports. And airports that were suitable for DC-2's were likewise found to be unsuitable for twenty-one passenger Douglas DC-3's.

We have lost count of the number of air mail stops canceled out within the past sixty days but it is in the neighborhood of sixteen. This isn't a large number until you begin to consider the total number of air mail stops—and then sixteen begins to be an impressive figure. Some of these cancellations were made because of field conditions, i. e., improvements are now being made and they are unsafe for aircraft operation. But most of the cancellations have been made because the airlines were replacing small equipment with larger.

To say that the airport situation is critical is to state it mildly. Some immediate action—some comprehensive formula—is necessary to prevent the whole business from getting out of hand.

Is it any wonder that a city that has spent substantial sums of money on its airport gets up on its hind legs and howls when an airline cancels its stops? One can hardly blame the cities for protesting, despite the fact that most of them had advance notices that large ships would not be able to serve their communities unless their airports were enlarged.

Likewise, it is no wonder the Post Office Department is concerned, for it bears the brunt of Congressional and local protests. The Bureau of Air Commerce, on whose shoulders rests the responsibility of saying whether an airport is safe for certain operations, also is the target for acrimonious protests.

Cities are inclined to blame the airlines. Sometimes, it is true, the airlines have not acted on the square with regard to airports. Too often the inadequacy of airports is given as an alibi when the airline doesn't want to make a stop. Too many rash promises are made. On the other hand, airlines must institute larger and faster equipment. This is a competitive business. The Post Office Department, concerned only with air mail, wants faster schedules. In order to compete in the passenger business, no airline today can afford to lag behind with slow planes.

It is time the Post Office Department, the Department of Commerce and the airlines got together to work out the problem. More advance notices of intentions are needed. The confidence of communities must be maintained. It is absurd to have nothing but buck passing when all parties concerned should get down to brass tacks.

The sum and substance of the whole airport situation can probably be stated in this way: Up to the present the job of building, improving and enlarging airports has been a local task, sometimes stimulated by state aeronautic commissions. The Works Progress Administration and its work relief predecessors have done much to effect improvements, but within the past year the airport problem has gone far beyond the stage where it can be "squeezed in" as an adjunct to a work relief program. It needs planning, vision, and some plain speaking.

If the truth were known, we have been talking in terms of thousands of dollars instead of millions. If this nation can develop thousands of miles of paved highways without batting an eyelash, then it can spend millions of dollars building genuine, safe and adequate air terminals. It needs a super-man with vision to take hold and push the whole airport problem out into the open. The Dingel bill now pending in Congress opens the way toward constructive action. But there is an immediate problem at hand.

There has been much talk about the forty-passenger Douglas DC-4 transport. But where is it going to be flown? We know of only one airport today where DC-4 operations could be handled day in and day out with safety. That's Cleveland. Jack Berry talked and worked with millions while most cities were quibbling over a few thousands of dollars. Today Jack Berry is so far ahead of the nation as a whole that the whole business is pathetic. Transport equipment is far ahead of ground facilities. It's about time we stopped thinking about the DC-4 until we have places to take it off the ground and bring it down again. It can't be used just for sightseeing out of Cleveland.

Quips

"The country is being built up so rapidly that there is reason to fear that very soon there will be no more large flat tracts of land inaccessible enough to be transformed into city airports"—*Saturday Evening Post*, Aug. 7, 1937.

"No fanatics are so thin skinned, touchy and abusive as the lunatic fringe that believes the airplane is the wonder and glory of civilization and views flying as a crusade; and anything but editorial hosannas applauding what everyone knows is an exceedingly dangerous, comfortless and unreliable business brings it (the lunatic fringe) down like a wolf on the fold. Editors . . . would rather denounce Baby, Mother or The Flag"—*Lucius Beebe*, in the current issue of *The Bachelor*.

"The American Airlines has started a new campaign to promote wider use of air transportation. They claim they can get huddies back from Chicago and New York, promptly to mama, if they fly back—but why do you suppose so many tired business men have to make occasional trips to Chicago. We think the airlines are using the wrong appeal. They should suggest the trip visa-versa"—*Tacoma, Wash., Civil Service Bulletin*.

"Gentlemen, did you ever think of what irony there is in the Republicans defending the Constitution and saying they are the defenders of the faith? The Republican Party was organized at Jackson, Mich., on July 6, 1854, and dedicated to the principle that the Constitution was a 'covenant with death and an agreement with hell,' and they said, 'There is a higher law than the Constitution. Let us tear it up and throw it out of the window.' Thus came the Republican Party. Whenever they get up defending the Constitution they give me a pain where I would rather have pleasure. (Laughter.) * * * I mean by that, it gives me a pain in the neck. (Laughter.)" *Representative Luther Patrick (D.-Ala.) on the floor of the House of Representatives.*

Good Choice



When Continental Air Lines (Denver-El Paso) began using Lockheed 12's July 1, a photographer made various inside shots of the cabin of one of the ships for use in the line's time-tables and literature. For a proper "stage prop" a copy of the June 1 issue of AMERICAN AVIATION was used, as the above photo shows. Our thanks to Traffic Manager R. H. Herrstein for the happy selection and thanks also for his comment, "Your magazine has given me more information than any other I can find."

MORE UNSOLICITED COMMENTS

"Received our first copy of AMERICAN AVIATION a few days ago, and want you to know that we think it a very good aviation magazine." O. W. Jones, Superintendent of Board of Aviation Commissioners, Terre Haute, Ind.

"You are indeed to be congratulated on the attractive, live-wire character of the magazine which you have produced." Herbert L. Sharlock, Vice-President, Bendix Products Corp.

"I wish to congratulate you on the new magazine, AMERICAN AVIATION. It looks to me that here is a genuinely different thing off the press, and it should have a growing sale. I like the way the subjects are treated, and what Time magazine has said of it is excellent." James E. Mooney, Philadelphia, Pa.

"I want to take this opportunity to commend you on the excellent magazine you are putting out; you seem to have the faculty of filling it with interesting news." David M. Giltinan, acting chairman, Board of Aeronautics, State of West Virginia.

"I have held off sending you my subscription for a few numbers to make sure that the magazine was going to keep up the high level of performance that you started out with. This now seems to be the case, so you will find enclosed my check for \$3.00 and I want to add that I think you are doing a swell job." Fred B. Sheriff, Commissioner of Aeronautics, State of Montana.

"Keep up the good work. Don't let up." F. J. Lee, pilot, American Airlines.

"Orchids to you! Oh, you've heard the expression before and I expect you'll hear it many times more because you are doing a swell job with your new magazine, AMERICAN AVIATION. Again, congratulations." Oscar Bergstrom, Delta Air Lines.

"In connection with managing funds of clients of our investment management department I have been following activities in the aviation industry for several years and have always felt a real need for an aviation news magazine such as AMERICAN AVIATION. I particularly like your coverage of the developments in Washington. In the past I have wasted a tremendous amount of time in Washington trying to keep informed regarding developments in the various branches of the Government. Your magazine serves this purpose admirably, and if your coverage does not happen to be complete enough for our purposes, the primary source can always be contacted with a minimum of wasted effort. I wish you and AMERICAN AVIATION every success in the future." Walter H. Kidd, Investment Management Department, Mackubin, Legg, and Co., Baltimore, Md.

"I sincerely think that AMERICAN AVIATION will do more to the good of the industry than all the other combined publications." Robert F. Six, Executive Vice-President, Continental Air Lines.

"I have just seen one of your magazines and like the idea of that type of information very much. It seems that all the other aviation publications are very much alike but none of them have the everyday news and discussions that are also of interest—or at least should be." M. D. Haas, Chicago, Ill.

"I have been reading your publication with a great deal of interest and delight. It is the first aviation magazine that gives me the type of information I want. Please put me down on the subscription list." Max J. Pollet, President, New York State Aviation Association.

"Most informative aviation magazine yet published."—Lieut. R. P. Brush, Seattle, Wash.

Harry Bruno, Ace Aviation Publicity Expert, Gets the Headlines Himself

Harry Bruno, press relations representative for Bendix and other well known aviation accounts, receives outstanding mention in a new book, "Press Agency," authored by Charles Washburn and published by the National Library Press (\$2.00). Washburn is a press relations expert noted for his theatrical work in New York.

Washburn devotes an entire chapter to the publicity efforts of Bruno, who now is in business as H. A. Bruno & Associates and formerly was a partner of the late Harry Blythe.

"Time was when the public relations counsel was 'that press agent' and the advertising agency, newspaper editor and the world in general looked upon him with scorn or amused tolerance," Washburn says. "Today the recognized, stable and sound-thinking public relations counsel sits among the mighty, for his thoughts and activities have spanned the gap from press clippings to across-the-counter sales. His work is widely varied and directly tied up to the advertising, sales policies, radio programs, packaging, and almost everything but legal counsel and the manufacture of goods."

From the angle of directing public relations work to the point of actual sales of a product, Washburn takes as an example Harry Bruno's campaign for National Biscuit Company and its "three-hour 'Let's Dance'" radio show.

"Probably the greatest 'account' from the standpoint of intensive and varied work which Harry Bruno's well-knit organization ever handled," Washburn said, "was the New York to Paris flight of Col. Charles A. Lindbergh (represented by Bruno and Blythe) when he came out of the West an unknown, tow-headed free-lance pilot. The three letters of 'introduction' which caused so much amusement and comment when presented in Paris by Lindbergh, were given him by Bruno."

"Once this world-famous flight was over, the work of the Bruno staff was to surround Lindbergh with a protective mantle of advice and separation from the hordes of schemers, fly-by-night promoters, hysterical women and others who would have capitalized to the utmost on this immortal feat had not the public relations counsel provided guidance."

"Another example of how an individual publicity job can be developed into a really national and constructive movement was the arranging by the Bruno organization of the First National Air Transport Day, held at Newark Airport on May 15, 1935, and attended by more than 50,000 persons in a single day. Originally this idea was generated by the plan to christen a new amphibian plane for the Standard Oil Company of New Jersey, the client. Obviously this would have been a one-day two-paragraph or so story."

"Checking back on air transport, air mail, etc., it was discovered that May 15 marked the 17th anniversary of the first regular air mail flight in this country. Branching out from this bit of research work, the event, originally a plane christening, developed into a national day, with all the States in the nation sending in their messages to Newark from the Governors; with every big transport line placing their ships on exhibition and furnishing free plane rides over the Greater City; with a score or more aviation companies putting on an interesting and instructive exhibit in Newark's new \$500,000 Administration Building which was dedicated officially as part of the day's

events. For several weeks the newspapers were filled with information on the event, the leading merchants, business men and others took part in the festivities, and the christening of the Standard Oil plane received many times the amount of space it would have otherwise obtained."

Washburn also mentions Bruno's handling of the National Motor Boat Show in New York, the "Red Davis" program of the Beechnut Products Company, and the handling of publicity for the Graf Zeppelin and the Hindenburg. Particular mention was made of the exhibition flight of the Hindenburg into New England with a galaxy of industrial leaders on board, all for Bruno's client, the Standard Oil Company of New Jersey.

"Without going into the many other interesting matters handled by Harry Bruno's organization," the author said, "it may be said that the goal set by these executives and their staff is one beyond the present-day conception of the press agent or public relations counsel. Taking the ever-important but oft-neglected elements of careful research, principles of advertising and salesmanship, and common sense, this organization aims toward the day when there will be a complete and accepted equality of importance of advertising, public relations work, and general sales promotion. They believe that these are essentially one and the same in their machinery of operation."

"Press Agency" has much common sense between its covers. Since aviation publicity is considered at length, the book will be useful to press relations personnel in the industry—and also to those in the industry who are still living in 1890 as far as press relations are concerned.

P. O. Will Advertise More Air Mail Routes

Although the Post Office Department is silent it is fully expected that a number of additional air mail routes will be advertised within the next sixty days. The Department is holding off until passage of the Mead bill which would authorize an additional 3,000 route miles to the existing 32,000.

The Post Office has sufficient money left to add a number of important routes. Whether the Houston-Brownsville route will be included depends on Braniff's present maneuvers to keep the P. O. from advertising that link. It is almost certain that some route between Kansas City or Wichita and Denver or Pueblo will be advertised once the controversy is settled out there concerning rival claims. A story originated in Pueblo on July 28 that the Post Office will not advertise a Denver-Kansas City route, but prefers Pueblo-Wichita-Tulsa. This is possible but no confirmation could be obtained in Washington.

Two other routes are possibilities—one from Detroit to Sault Ste. Marie, with many stops on the way—and one from Savannah to Mobile or New Orleans by way of Jacksonville and Tallahassee. The Memphis-Birmingham route is considered a probable link to be advertised, and a route from Tampa to Tallahassee is also being considered. A number of extensions are expected to be made during the next three or four months, including one from Amarillo, Texas to Pueblo, Col., for Braniff Airways.

Cord Sells Aviation Holdings As SEC Issues Restraint Order

Lou Manning Assumes Presidency of Cord Corp. as New York Bankers Get Control of Widespread Aviation Interests

What effect the shift in control of the Cord Corporation will have on American Airlines and other aviation interests is a matter of speculation in the industry.

E. L. Cord sold his entire holdings in the Cord Corp. on Saturday, August 7 to a New York banking group and to Lou B. Manning, president of Aviation Corporation. On August 9 a new board of directors was announced to handle the affairs of Cord Corp. and announcement was made that the name would be changed.

Preceding the change in control was the announcement from the Securities and Exchange Commission that it had filed a bill against Mr. Cord and Morris Markin in the U. S. District Court at Chicago to enjoin them permanently from "further violation" of the anti-manipulation sections of the Securities and Exchange Act of 1934.

AMERICAN AVIATION in the July 1 issue predicted that various financial moves were underway, although at that time it was not at all certain which way things were going.

Manning Moved

Cord Corp. had a substantial interest in Aviation Corp., which in turn acted as holding company owning a substantial interest in American Airlines. When the \$17,500 limitation on airline salaries took effect with the Air Mail Act of 1934, Manning switched from American Airlines to the holding corporation at a salary reputed to be \$60,000 a year. Many rumors have been floating about concerning possible changes in the various aviation subsidiaries in the Cord financial structure but none could be confirmed.

Mr. Cord sold 500,000 shares of Cord Corp. capital stock for \$4 a share to Emanuel & Co. and interests for which Schroder Rockefeller & Co., Inc., is acting and as part of the same transaction he disposed of 158,000 shares at the same price to Mr. Manning and associates. Cord's holdings in Cord Corp. aggregated about 30% of the stock outstanding.

Following the sale, Mr. Cord severed his connection with the company and resigned as president and from the board of directors. Other directors who resigned included H. T. Ames, L. K. Grant and P. P. Willis, the latter being an advertising man who has handled American Airlines' extensive advertising campaign.

Comprising the new board are Victor Emanuel, partner of Emanuel & Co., Mr. Manning, R. S. Pruitt, general counsel of Aviation Corp., C. Coburn Darling, partner in the firm of Miller & George, Providence; Gerald E. Donovan, vice-president and director of Schroder Rockefeller; Tom Girdler, chairman of the board of Republic Steel and Henry Lockhart, director of Shell Union Oil Co.

New officers are: Mr. Emanuel, chairman; Mr. Manning, president and operating head; Mr. Pruitt, vice-president and general counsel, and Mr. Darling, vice-president.

Girdler's Interest?

Considerable speculation was evidenced within the industry by the entrance into the aviation picture of Tom Girdler, the steel man whose anti-labor policies kept him in the headlines during the recent steel strikes.

The name of the new company and its policies were to be announced shortly.

Cord has had a spectacular career in finance and also in aviation. It had been reported as far back as last January that because of American Airlines' poor financial condition that he was planning to get out of the company when expedient. American's traffic has picked up since then and the company as a whole is far better off than it was six months ago, even discounting the attempts to brighten its picture in the public view.

What the SEC charged Cord with was manipulating Auburn and Checker Cab stocks. Both Cord and Markin entered denials.

Cord Corp. has as its subsidiaries not only Aviation Corp. but Auburn Automobile, Checker Cab and New York Shipbuilding Corp. Aviation Corp., in turn has as subsidiaries the Locomotive Manufacturing Company, Vultee Aircraft Co., and has a controlling interest in the Stinson Aircraft Corp. at Detroit. In addition there is the interest in American Airlines.

With Cord ostensibly out of the aviation industry, control of the large aviation holdings held by him has passed to New York banking interests with Lou Manning as master of ceremonies. The events leading up to Cord's withdrawal are considered by observers to be one more evidence of large-scale financial maneuvers now in process in Wall Street.

Rand Resigns

H. J. Rand, Jr., who has been associated with Bendix Aviation Corp. and who is president of Pan American Broadcasting Corp. and other companies, has resigned as secretary of the National Aeronautic Association. He was elected at the convention held last winter in Chicago and headed the N. A. A. financial campaign. No successor was listed in the August issue of the official N. A. A. publication. Before he changed his name he was James Rand III.

Gardner Quits EAL

George E. Gardner, assistant operations manager for Eastern Air Lines, has severed his connection with the company, it was learned Aug. 3. He had represented Eastern at a number of conferences in Washington recently. His reasons for leaving are not known.

A.W.U. Elects Woody

Santa Monica, Calif., July 24—Fred C. Woody, former employee of the Douglas plant, yesterday was elected business manager of the Aircraft Workers Union and a meeting of 600 workers from the Douglas plant. Woody graduated from a Los Angeles law school and at present is in the real estate business. The U.W.A. made no progress in selecting a successor to Tom Triplett, who recently resigned as president.

Harding Transfers

John Harding, Jr., formerly with Menasco Manufacturing Co., Los Angeles, is now with the Pump Engineering Service, Cleveland.

PRO, CON AND OTHERWISE

New York City
July 12, 1937

To the Editor:

I notice in your July 1st issue, on Page 7, an account of my doing dive tests on the Seversky Navy Pursuit ship. In the last paragraph of this account you state that I wore a leather belt to protect my internal organs from injury during the "pull-out", and, in the interest of accuracy, I would like to deny this. I have done a good many "pull-outs" at 7½G and also up to 9G and have never felt the necessity for a belt nor suffered any physical discomfort from the "pullouts", although, naturally, if the G is held for a long period of time, there is a slight tendency to blank out.

Sincerely yours,

James B. Taylor, Jr.
Taylor-Ainsworth, Inc.
Chicago, Ill.

July 17, 1937

To the Editor:

Considering some of the recent low bids that the air mail contractors recently submitted to the Post Office Department it seems that *labor* is again the forgotten element. It is surprising to many of us that are so very closely related to the safety of the entire industry that the Post Office Department would repeatedly recognize those airline operators that hypocritically shout the cry of Safety in Air Transportation to the four winds, and yet criminally neglect to inspect the foundation of their glittering mansions.

One large airline operator recently received a substantial increase in its air mail rates. The mechanics employed by that company are wondering if the recent increase in salary brought about by the signing of their agreement was used as a sales argument.

We believe that the small increase in the cost of operations of that company which benefitted labor directly had a decided influence in creating not only good will of the public but received its due consideration from the present administration. It is also our firmly held belief that many of the other operators can profit equally well by the example that this progressive carrier has set.

In closing, we wish to state that we are favoring the passage of the McCarran-Lea Bill as we firmly believe that the Interstate Commerce Commission is in a better position to judge the important factors that are necessary to constitute safety in air transportation.

A. P. Martin, President
Air Line Mechanics Association
Spokane, Wash.
July 12, 1937.

To the Editor:

We were very much interested in the article in the July first issue regarding the route from the United States to Alaska.

If I had anticipated such an article, I certainly would have taken time to tell you of Spokane's plans along the same line. We certainly can't criticize the Canadian people for establishing this line; in fact we congratulate them for their foresightedness in doing so.

However, on the other hand, we do not feel that just because this line has been selected that eventually Great Falls is going to be the terminal point for the United States-Alaska route. We have felt that Spokane is the logical point for the terminal, being the largest city by far in this region, the natural junction point along the inside passage, center of five transcontinental railways, connecting lines with the United and

Northwest airlines, and many other factors too numerous to mention.

Just because this line has been established and plans are being made to come into Great Falls, does not deter us in any way, nor of going ahead with our plans of being the future connection. We certainly don't consider ourselves defeated in any way at all but instead, are just going to fight harder.

I am sure this will be of interest to you and would greatly appreciate any comments you have in regard to the future plans of this Alaska situation.

Kennard Jones, Secretary
Aviation Committee
Spokane Chamber of Commerce
Romulus, Mich.
July 14, 1937.

To the Editor:

In the July 1, page 10 of AMERICAN AVIATION under the heading "Detroit, Paper Approves" last three lines—"On that basis alone the theory of the Dingell bill seems unquestionably a sound one."

If you knew the whole story back of the Dingell bill, or were interested to investigate the matter, you would see why Mr. Dingell would like to have such a bill passed.

We have two airports in and near Detroit that are used for heavy transports, and anyone with aviation experience would know which is the better of the two for transport operations.

Did you ever hear a word called POLITICS?

Mr. Dingell's bill is woven around a large Gas Container which is located on one of these airports, they would like to move it and there is no money to move it with, and it will take only a mere million dollars to move it, and if and when they ever move it, there is still a large question mark behind: Will they have an airport then????? The man with honest aviation experience, and not throttled with politics, will say NO.

You will just have to wait until the horse is stolen in Detroit before the barn door will be locked, and then it will be too late. There may be another Senator Cutting on the ship or some other people who are above the rank and file of the world, and if so it will smell bad in print.

L. F. BISHOP.

PAN AM SUES

Object to Use of Word "Clipper" by Alaskan Service

Seattle, Wash., August 4—Pan American Airways Corp. started suit here yesterday to compel the Alaskan Clipper Air Service, Inc., to discontinue the use of the word "Clipper" in its advertising and business.

The "Alaskan Clipper" was introduced by the Alaskan Clipper Air Service in July, 1936, and crashed on its first scheduled flight, the complaint states. In July of this year, the company resumed service with another Clipper.

Pan American claims that it adopted the term "Clipper" in 1931 and has spent \$250,000 advertising the name.

New Civil Airway

The Department of Commerce announced on July 29 the designation of Civil Airway No. 100 from Miami to St. Petersburg, Fla., by way of Fort Myers and Sarasota.

EAL PHOTO-BIOG CONTEST POPULAR

**Finds the Idea Aids in Building
Steady Patronage, Humanizes
Plane Operations**

Eastern Air Lines' Captains' and Pilots' Photo-Biography Contest, launched not long ago, apparently has made a hit with Eastern's steady patrons, and bids fair to be a patronage-builder feature which can be adopted with success by other lines.

Eddie Rickenbacker, Eastern's general manager, who conceived the idea, has offered the scheme to executive heads of other domestic airlines.

The contest effects a personal tie-up between passengers and the pilots. During each flight every revenue passenger is presented by the flight steward with one autographed set of photo-biographies of the captain and pilot on duty. In addition to the signatures of the two flight officers the photo-biographies must carry the date and number of the trip.

These signed sets are retained by the passengers to whom they are given. As the passenger continues to travel Eastern his collection grows. And the collector, who at midnight, Dec. 31, 1937, has the largest number of these signed biographies, will receive the award, two free round-trips over Eastern Air Lines to Miami, plus room and meals complimentary for two people for two weeks at the Miami-Biltmore Hotel.

Photo-biographies are transferable only to members of the recipient's immediate family, such as wife, husband, mother, father, daughters or sons.

"There is no question that this contest now has wide ramifications and a variety of beneficial results that were scarcely dreamed of when the idea was launched some weeks ago," according to Eastern Air Lines.

"The various angles of the contest present some highly interesting facts. In the first place, people like to read about interesting people who have interesting jobs, who are doing interesting things. Names and faces make news. Passengers on planes have the time to read without interruption what is handed to them, providing the reading matter attracts their attention. We have found that these captain and pilot photo-biographies do attract their attention.

"The benefits to the passenger are that his confidence in the men who are flying the plane is increased. For here he reads of the experience and qualifications of the two pilots on duty, and of their long records aloft piloting passenger transports. In the minds of the passenger reading the biographies, the men flying the ship become humanized, are definitely personalized."

Eastern also feels that it helps to disassociate the generally erroneous tie-up of captains and pilots with accidents in the minds of many people.

Sleeper Trips

Chicago, July 30—United Air Lines will increase its coast-to-coast sleeper plane service to three round trip flights nightly sometime before August 15, W. A. Patterson, president of the line, announced today. The night schedules will be arranged to provide sleeper plane service, directly or through connections, from practically all major Atlantic seaboard and Great Lakes cities to every city of 100,000 population on the Pacific Coast.

Low Bids? — Mr. Mead Explains

**Debate in House of Representatives Brings Out Some Illuminating
Opinion on Pending Legislation**

Representative Jim Mead (D.-N.Y.) provided the air transport industry with his unvarnished views on low air mail bids and the McCarran-Lea Air Carrier Bill in the course of a debate in the House of Representatives on August 2.

Participants in the debate in addition to Mr. Mead were Representatives Robert F. Rich (R.-Pa.) and Pehr G. Holmes (R.-Mass.). The remarks were made while the House was considering H. R. 7448 which would authorize experimental air mail service and reported elsewhere in this issue.

That part of the debate referring to low bids and legislation follows:

Mr. RICH. Does this bill have anything to do with the companies which bid in air mail contracts for 1 mill an ounce? (Sic). Would this bill have the Post Office Department spend a lot of money with the airlines for experimental purposes?

Mr. MEAD: Not at all.

Mr. RICH: Can the gentleman give us any reason why these contracts for carrying the air mail were bid in at 1 mill an ounce?

Mr. MEAD: Those low bids were for the purpose of making it a certainty that the new lines should be captured by companies who foresee a field of future attractive development. In other words, the lines the gentleman has in mind were bid in at ridiculously low prices because the companies realize that after the initial period is over those routes will be part of our permanent system and profitable.

Mr. RICH: When it comes to letting the next contract, how do they know they will be the successful bidders?

Mr. MEAD: There need be no next contract. After the initial 3-year period is over the contract will be extended indefinitely at a rate set by the Interstate Commerce Commission. This compensation is merely for the initial period of operation.

Mr. RICH: If you are not going to have any compensation, then is it not a fact that eventually we are going to pay more for our air mail service simply because we are making contracts in this manner? You and I and everybody knows that it is impossible for the fellow who bids 1 mill an ounce to carry the mail without loss. If he is assured that he is going to have the contracts for a period of years, then eventually the Federal Government is going to lose because of the fact you are making contracts of this character.

Mr. MEAD: Under the existing law the rate is set by the Interstate Commerce Commission after the initial period has expired, only upon a complete audit of the books of the company and a consideration of its revenues from all other sources. Therefore, in no case are the payments to these air mail contractors really excessive.

Mr. RICH: Then you are trying under the laws to eliminate all competition for air mail contracts.

Mr. MEAD: Oh, no; not at all.

Mr. RICH: That is what you are doing here. You are giving an extension for an unlimited period of time.

Mr. HOLMES: Mr. Speaker, will the gentleman yield?

Mr. MEAD: I yield to the gentleman from Massachusetts.

Mr. HOLMES: Does not the Department have under general law all the authority to conduct experimental flights or transport mail exclusively by plane?

Mr. MEAD: Under a strict interpretation, no; but perhaps under a liberal interpretation of the law they would have such authority.

Mr. HOLMES: As a matter of fact, we have pending here general legislation which covers the entire field of aviation.

Mr. MEAD: The gentleman is correct.

Mr. HOLMES: This proposed legislation covers the carriage of passengers, mail and express. Pending the passage of such legislation, does the gentleman think it is advisable to set up additional boards or bureaus within the Post Office Department to continue further experimentation?

Mr. MEAD: No; we are not going to do that.

Mr. HOLMES: Then the Department of Commerce under the proposed legislation will have the administration of all the safety devices, and so forth, in connection with such operations?

Mr. MEAD: They will under this bill also.

Mr. HOLMES: It seems to me we should not take this step today before we consider the general aviation control bill placing jurisdiction in the hands of the Interstate Commerce Commission, which, after the enactment of the bill, in connection with the Post Office Department and the Department of Commerce, can lay out a comprehensive and well-thought-out program covering all of our future aviation operations, including passenger, express, and mail services.

Mr. MEAD: I may say to the gentleman I have my doubts that the Congress of the United States will ever pass that bill, because if it is passed it will break down every restriction in existing air mail legislation. It will wipe out the restrictions with regard to holding companies and interlocking directorates as well as the ownership by certain lines of other lines, and it will give to a commission in the Government more power than I am willing to delegate. I think if that bill comes to a vote in this Chamber and in the other Chamber it will be overwhelmingly defeated, because it will create a condition similar to that which led to cancellation of the air mail contracts, and we do not want a condition like that to exist again. There is no possibility of our anticipating that law, however, and the bill before us will merely allow experiments in aviation which may save human life, without any cost to the Government.

Mr. HOLMES: I appreciate the gentleman's views on the pending legislation.

Swiftair Busy

Athens, O., Aug. 2—The Athens Flying Club, sponsored by the Athens Messenger and Clover Farms Stores, was organized by Swiftair last month with eight out of ten memberships sold. The other two memberships are being carried by "Spinny" Robinson, local automobile dealer.

Wyoming Air Service Buys 3 Boeing 247s

Cheyenne, July 28—Wyoming Air Service will purchase three additional Boeing 247 transports to take care of its new extension from Billings to Great Falls, Mont., and its new air mail route from Cheyenne to Huron, Dick Leferink, president, has announced.

Almost 1,000 miles has been added to the route mileage of Wyoming. Service to Billings began Aug. 1, following survey trips by Leferink and M. W. Landes, vice-president in charge of operations. They conferred in Great Falls with A. J. Breitenstein, secretary of the C. of C., and George Shea, chairman of the chamber's aeronautics committee.

Much airport improvement is necessary before all of the scheduled stops can be made on the Cheyenne-Huron route.

SEVERSKY EXPORTS

**Tests Completed on New Fighter;
Goes to South America**

The Seversky Aircraft Corp., Farmingdale, L. I., has announced that it has completed test flights on the world's fastest two-place fighter, recently built for export. One plane was shipped to South America for demonstrations early in August and from there it will be taken abroad. The company reports that both the Chinese and Russian governments have expressed enthusiasm for the plane "and substantial contracts are expected to ensue." The fighter is rated as very speedy and has a fuel capacity making possible a distance range of more than 4,000 miles.

NEW! UNITED'S SLEEPER PLANES COAST TO COAST

15½
HRS.



None faster... none so fine

THE NATION salutes United's new Douglas-built Mainliner sleeper planes... now in regular *overnight* service coast-to-coast on the "Main Line"—the nation's pioneer air-way.

Leave New York in the evening... breakfast in California next morning. Sleep in full-size berths in air-conditioned cabins. Arrive fresh—ready for business. Fly United—120 million miles experience and the latest type equipment.

RESERVATIONS:

Any United Air Lines Ticket Office, Hotels, Travel Bureaus, Telegraph Offices

UNITED AIR LINES

ATC GIVEN SINGLE BLADE PROPELLER

Everel Propeller Corp. Claims Increased Take-off Speed and More Mileage Per Gallon

Lancaster, Penna., August 1—The Everel Propeller Corp. has received from the U. S. Bureau of Air Commerce an Approved Type Certificate for the new single-blade airplane propeller for 40 horsepower motors. This size motor is used in the majority of two-place civilian airplanes in operation today.

Walter W. Everts, vice-president of the company and inventor of the single-blade propeller, and Frank Ellington, president of the corporation, have spent a year in Lancaster developing the propeller and preparing for its commercial production.

It is claimed that the single-blade will give an increase in take-off speed and climb ranging above 25 per cent, increase gasoline mileage slightly over 20 per cent, give freedom from vibration and a reduction in gyroscopic action, resulting in longer life of airplane and motors.

In addition, the Everel is an automatic variable pitch propeller, permitting the blade to "bite" into the thinner air of high altitudes with far greater efficiency. In the variable pitch mechanism, the entire action is accomplished by a single bearing in the hub which permits the blade to "vary" or "freewheel" and compensates weight balances by gyroscopic action.

Jesse Jones, of Lancaster, flew his Cub "flivver" to New York last February using a single-blade. This was the first cross-country flight for the new propeller and the one used is now on display in the Smithsonian Institution. Jones then flew a four-place cabin monoplane, powered with a 145 horsepower motor, to the Pacific Coast with Everts and Ellington as observers. A fuel saving of about 20 per cent was maintained on the flight.

Lieut. Arthur S. Pierce of the Taylor Aircraft Company, flew a Cub light-plane, powered with a 40 horsepower motor, from Lancaster to the Pacific Coast, a distance of 2500 miles. A speed approximately ten miles an hour in excess of normal speed was shown.

20 YEARS AT BOEING

Four Officials Reach Two-Score Mark in Company Service

Four officials of the Boeing Airplane Company, Seattle, have reached the twenty-year mark in the employ of that company. All have received the coveted blue button within the last few months.

First to reach the 20-year mark was Claude Hill, Wood Shop foreman. Second was Louis S. Marsh, assistant engineer. Then on May 19, a few weeks later, John Wilson, chief inspector, became eligible, and on June 3, C. L. Ertvedt, president of the company, reached the two score mark.

Mr. Wilson, on receiving his 20-year pin, announced his retirement recently and his position has been filled by C. S. Rankin, engineer in charge of inspection and testing. His assistants are Don MacLean and Aubrey Ramm.

76,000 Landings

United Air Lines has figured up that its 17,000,000 miles of flying during a twelve-month period require something around 76,000 landings and an equal number of take-offs. Some 411 landings and take-offs a day are made, approximately half at night.

Only 2 Air Fields in Alaska Have More than One Runway, Report Says

Alaska has only two landing fields with more than one runway, and 39 out of the total of 74 landing fields have runways of less than 1,500 feet, according to Charles West, Acting Secretary of the Interior, in a report to Congress on two bills now pending which provide for extensive development for aviation in the Territory.

The bills now pending in the House Committee on Territories are:

H. R. 4889, which would authorize the Secretary of the Interior to locate, construct and maintain airfields and other air navigation aids in Alaska, and

H. R. 5045, which would call for the expenditure of \$1,500,000 for air fields, airports and air transportation facilities along with a total of \$8,000,000 for highways, bridges, school buildings, hospitals, hotels, etc.

Coincident with Mr. West's report showing a poorly developed situation with regard to airports, Paul W. Gor-

don, supervisor of affairs in the northern Territory for the Department of Interior, announced that dog teams as a method of transportation in Alaska have all but passed into history.

Year	Planes in Service	Number of Passengers carried	Number of plane miles	Number of passenger miles	Mail & Freight carried (lbs.)
1929	8	2,171	33,591	272,999	118,951
1930	24	3,654	338,422	684,361	120,733
1931	26	7,947	381,234	947,695	161,718
1932	31	6,637	742,854	942,176	496,680
1933	42	7,743	1,059,155	1,222,510	785,586
1934	56	10,194	1,126,610	1,533,311	994,370
1935	75	13,318	1,685,654	2,148,692	1,722,757
1936	79	16,982	2,130,929	3,035,018	2,418,616

don, supervisor of affairs in the northern Territory for the Department of Interior, announced that dog teams as a method of transportation in Alaska have all but passed into history.

Mr. Gordon said figures now show that the airplane is reaching the remote places heretofore served only by the dog. The per capita use of airplanes among the 60,000 residents of Alaska is 70 times the average of the population in the States, he said.

Planes have about a 171-to-1 speed advantage over dogs.

Alaska-U. S. Air Route

H. R. 4889, which is a Department of Interior bill, authorizes the Secretary of State to negotiate an agreement with the Dominion of Canada for the establishment of an airway between continental United States and Alaska.

The Secretary of Interior is authorized to make rules and regulations governing the use of the facilities constructed and maintained, including the collection of fees and the execution of contracts with the Territory or with municipalities for the maintenance, operation and management of the facilities constructed.

Alaska, Mr. West said, has less than 2,500 miles of wagon road and less than 750 miles of railroad, therefore it must depend upon air transportation. "No other method of transportation is so well adapted to the exploratory period through which the Territory is actually passing."

Despite the greatly increased air traffic, landing fields are almost in a primitive stage of development, he said. The following data were presented:

- 2 out of 74 have more than one runway
- 2 out of 74 have runways longer than 3,000 feet
- 8 out of 74 have runways between 2,000 and 3,000 feet
- 15 out of 74 have runways between 1,500 and 2,000 feet

39 out of 74 have runways less than 1,500 feet.

"Pilots are forced to use sand-bars and clearings almost as often as they are able to use one of these fields," Mr. West said. "The only surfacing provided is that found at the site except that in a few instances a small amount of pit-run gravel has been hauled in to fill up the holes."

Fields Are Make-Shifts

"Fields have not been laid out on air routes fixed by nature and climatic conditions or fixed by centers of population; rather they have been constructed at points where most needed in order to move passengers and freight from a central point to a terminating made-shift field. Fewer than a dozen fields have been constructed purely for emergency and safety. It is not unusual but customary, to fly as much as 300 miles in a land plane without a single landing field."

"H. R. 4889 provides a means whereby a construction program may be undertaken to relieve the hazards to air traffic present in such lack of ground facilities and makes provision whereby future requirements may be met. Air navigation aids are one of the outstanding needs of the Territory of Alaska and one in which the Federal Government has considerable interest."

Both H. R. 4889 and H. R. 5045 have been turned down by the Bureau of the Budget as "not being in accord with the program of the President." Whether this kills the legislation for this session of Congress is speculative at this time.

Yakima Stop Delayed

Plans for an off-line passenger and express service by Northwest Airlines into Yakima, Wash., have been delayed pending approval of the airport. It had been hoped to begin service Sept. 10 but this date will probably be set back. Yakima will be served as an alternate stop on Northwest's line between Spokane and Seattle in place of Wenatchee.

Italy Leads

Italy has forged ahead of the United States in the matter of world air records, according to the National Aeronautic Association. The present standing is: Italy, 45; U. S., 43; France, 35; U.S.S.R., 15; Germany, 14; and Great Britain, 4. A year ago the U. S. had 54 records to France's 37 and Italy's 26.

Forgets to Raise Gear

Portland, Ore., Aug. 2—Charles Ganiere's Savoia Marchetti amphibian plane is being repaired at Lakeside following considerable damage when Ganiere landed July 18 on Tenmile Lake without raising the landing gear. "I just forgot to raise it," he said. The propeller was cracked, one strut bent slightly and the windshield was broken.

NEW TYPE DE-ICER APPROVED BY BAC

Tearing of Wings Experienced on Transports Last Winter Expected to be Eliminated

Approval of an improved type of de-icer for civil aircraft to be used during the coming winter season was announced by the Bureau of Air Commerce on July 29.

The protective devices applied to the leading edges of wings and tail surfaces of airplanes consist of rubber "overshoes" operated by compressed air supplied automatically from the power plant. Pulsations of compressed air cause the overshoe to expand and contract, breaking the ice so that it will be stripped off by the air.

In the improved de-icer fabric reinforcing strips have been installed in the rubber covering and any tear which may develop in the covering will be stopped at the rib and go no further. Thus, the remainder of the de-icer will presumably continue to function normally.

Winter equipment for airplanes will also include propeller protection through the use of "slinger ring" appliances which bathe propeller blades with an anti-freeze solution when ice is encountered aloft, the Bureau said.

The slinger ring was developed from a program sponsored by the Bureau of Air Commerce in 1935 and conducted by engineers of the B. F. Goodrich Company and airline engineers.

Approval of the new de-icers was granted following a recent series of flight tests observed by the Bureau of Air Commerce. It will be recalled that all de-icer equipment on Douglas transports was ordered off the planes in the spring following a number of near-accidents when de-icer equipment was found to be tearing at the wing structure.

ALASKA COMMISSION

First Meeting of New Aeronautics Body Held August 2

Juneau, Alaska, Aug. 2—The first meeting of the Alaska Aeronautics Commission, created by the last legislature, was held here today.

Members of the commission are Governor John W. Troy, chairman; Sheldon Simmons, of Juneau; John Cross, of Nome; M. D. Kirkpatrick, of Cordova, and Joe Crosson, of Fairbanks. Representatives of the Alaska Road Commission, Federal Communications Commission; U. S. Weather Bureau and the Coast Guard attended. Hugh Brewster, D. of C. inspector, was also present.

Plan Loop Airline

Ontario, Ore., Aug. 7—J. E. Laubaugh and W. R. Barrachaugh, of Boise, are completing plans for establishment of a loop airplane service connecting Nampa, Caldwell, Ontario and Emmett with the main line of United Air Lines at Boise. Ontario would be the western terminus.

Braniff Traffic Up

July passenger traffic on Braniff Airways showed a sixteen per cent increase over June, according to Charles E. Beard, vice-president in charge of traffic. Figures show a ten per cent gain over July a year ago. The gain was considered unusually good in view of traffic lost because of the strike of ground employes on Pan American's line in Mexico with which Braniff makes connections at Brownsville.

Plane-to-Ground Phone Service Still in Future; FCC Must O.K.

Procedure For Instituting Public Calls While in Flight Explained; Northwest Airlines Slightly Premature in Press Releases

After years of predictions and discussions, the familiar "Number Please" will within a year or so undoubtedly be heard by the air passenger making telephone calls while he is in flight across the country's airlines.

All of the newer aircraft are being wired so that ordinary desk type telephone can be plugged in beside each passenger seat or berth. In fact, the wiring is now standard equipment on transports now under construction for many of the nation's major airlines.

Northwest Airlines recently "jumped the gun" by shooting out publicity releases stating that plane-to-ground service would be a regular feature of the line with the institution of new 14-passenger Lockheeds. The line even sent out photographs showing a passenger telephoning from the plane. What Northwest didn't add was that the new Lockheeds 14's are equipped for such service when and if. Newspapers carried the plane-to-ground stories from coast to coast.

To date no airline has made the necessary clearance for such service. It is one of those things that require many preparations and special licensing. All this takes time. Plane-to-ground phone service is perfectly feasible right now from the technical standpoint, but a year or more will pass before the airlines are actually placing the service at the disposal of passengers. Perhaps this time can be shortened if any airline really wants it bad enough.

Here is how the service will operate: When the passenger wants to call home or office he notifies the steward or stewardess who arranges the connection and when the party called is ready to talk plugs the phone into a convenient plug beside the passenger.

Ultra-High Frequencies

The connection between the aircraft and ground is, of course, by radio. Ultra-high frequencies will be used probably on the order of 130,000 kilocycles. These frequencies are much higher than those used now for connection between aircraft and ground for the purpose of transmitting position reports, flight plans, etc. The ultra-high frequencies are not subject to the bothersome static to an appreciable extent, so it will be possible to have signal levels and quality approximately equal to those on an ordinary telephone line.

Radio stations will be located adjacent to the major airports with an operator's board similar to an ordinary telephone switchboard. When an aircraft makes a call the familiar light flashes on the board and the aircraft operator, when he gets the signal, gives the ground operator the telephone number of the person called.

The ground operator sets up the connection over the regular telephone line either on the local or long distance circuits and when the person called is ready to talk the wire phone is connected to the radio phone. The completed circuit will be a comparatively short distance radio link between aircraft and ground and a wire link over regular telephone lines which may be of any length depending on the location of the person called. Calls for persons on the ground to passengers on aircraft will be handled in the same manner.

Also Radio Will Handle

It is expected that Aeronautical Radio, Inc., of which Paul Goldsborough is president, will prove the working medium through which radio phone will be made available to the public and the service will be made available simultaneously by a number of the airlines.

Aeronautical Radio, Inc., is a wholly-owned subsidiary of the air transport industry, incorporated in 1929 with headquarters in the National Press Building, Washington. The Federal Communications Commission has issued approximately 225 ground radio station licenses to Aeronautical Radio and all commercial aeronautical stations in the United States with the exception of those licensed to Pan American Airways are under its control.

The entire aviation radio system of aircraft stations and ground stations is now operated as an adjunct to safety. No operating revenue accrues as no messages are handled for the public.

The American Telephone and Telegraph Company, of course, controls the telephone ground system through which the aircraft radio stations will establish connection through the ground radio stations with the wire telephone stations on the ground. All of the aircraft and ground radio apparatus will of necessity have to be designed to connect into the land line system.

A somewhat parallel case is the harbor craft ultra-high frequency system in Philadelphia which handles the communications between a station in Philadelphia and marine craft operating in the vicinity and provides a connection into the wire telephone system if desired. In this case the radio company providing the service purchased radio equipment manufactured by the Western Electric Company, an A. T. & T. subsidiary, manufacturing the bulk of the telephone apparatus used by the A. T. & T. and its subsidiaries.

New Channels Necessary

A number of frequency or radio channels will be necessary for a national set-up. The Federal Communications Commission controls the frequency allocations necessary for this work. The F. C. C. makes no commercial assignments of frequencies above 30,000 kilocycles at present. Licenses for experimental work have been issued above 30,000 kc. for some time and the Commission expects that it will be able to make intelligent assignments of frequencies from 30,000 kc. to about 150,000 kc. by the later part of this year.

Many types of services will have to be accommodated, including police, television, army, navy and others as well as aviation, in these bands, but it is expected that the public service aviation radio phone can be accommodated somewhere in the neighborhood of 130,000 kc. As soon as the Commission has given an indication of the ultra-high frequency bands which will be made available for this aviation public service, applications for stations to be located at a number of airports will be filed.

Charges for aircraft radiophone will consist of the aircraft-to-ground charge and the land line charge which would include the toll for long distance on

STEEP FLIGHT British Plane Takes Off In 4.5 Seconds

The British have developed a biplane equipped with a new type of British constant speed propeller which is able to take-off in 4½ seconds, according to a special bulletin of the Society of British Aircraft Constructors telling of the aeronautical trade display held at Hatfield late in June.

The airplane "literally rose like a helicopter, climbing steadily from the ground right up to the cumulus clouds four or five thousand feet up at a steep angle," the bulletin said. "Its take-off, measured by a stop-watch, took only 4½ seconds from the moment when it began to move on the ground. Seen from below it seemed to be pulled upwards almost vertically, with the propeller acting like the lifting vanes of a helicopter."

The propeller, fitted for the occasion to a Mercury supercharged radial engine and installed in a Hawker Hart biplane, is built by the new company Totol Airscrews, Ltd., formed in association with the Bristol company and Rolls-Royce. It is the first constant-speed propeller to pass a British Air Ministry official "type" test.

INAUGURAL FLIGHT

Direct Spokane-Portland Service Gets Civic Celebration

Portland, Ore., July 21—The inaugural plane of the new direct Spokane-Portland service instituted by United Air Lines arrived last night bringing greetings from Spokane and Pendleton. Aboard the first plane were A. B. Colburn, Spokane's commissioner of public safety; H. T. Anthony, president of the Spokane Chamber of Commerce; H. Cleavinger, of the *Spokane Daily Chronicle*; Mayor C. L. Lieullen of Pendleton, and L. Drake, of the East Oregonian, Pendleton.

The group was met at Swan Island Airport by Mayor Joseph K. Carson and Mrs. Carson; Hamilton F. Corbett, president of the Portland C. of C., and David L. Simpson, director of the C. of C. H. J. Gibbons is pilot of the ship, a 10-passenger Boeing, and his crew consists of R. K. Buckle, copilot, and Miss V. Wheeler, stewardess.

Two New Aircraft

Two aircraft of new design will use Menasco aircraft engines, according to the Menasco Manufacturing Company, Los Angeles. One 250 h. p. engine has been shipped to the Delgado Central Trades School, New Orleans, for installation in a new type plane built at that institution. The engine will also be used for aviation instruction work. A 125 h. p. engine was shipped to the Collier Consolidated Aircraft Co., of Tulsa, for installation in a new biplane trainer to be introduced on the market soon.

Hawks in Radio

Danbury, Conn., July 30—Capt. Frank Hawks has added radio to his aeronautical interests and is applying for a permit to erect a radio station here to blanket the heavily-populated suburban territory.

which the rates are already established. In order that the service will be quickly popularized it is not anticipated they will be high and they may follow closely, charges for a somewhat similar service now operating ship-to-shore on the Great Lakes.

NEW ENGLAND PLAN FOR AIRWAYS MADE

Report States Fifteen Millions Will be Spent on Airway Aids in Next Decade

The first comprehensive "Plan for New England Airways" has been released by the New England Regional Planning Commission through its aviation committee of which Dr. Porter Adams, president of Norwich University, is chairman.

The report predicts that \$15,000,000 will be spent within the next ten years for additional ground facilities in the New England region.

The plan was designed to serve as a guide for the expenditure of funds available for airports, landing fields, lights, radio beacons, and directional marking. It specifies the points at which these facilities should be installed, and presents to aviation, recreation, and other interests, a basis for publicity and promotion.

Contributing to the plan were Hervey F. Law, district adviser of the airport section of the Bureau of Air Commerce; Victor M. Cutter, chairman of the Planning Commission; and Dr. Jerome C. Hunsaker, head of the department of mechanical engineering and aeronautical engineering at Massachusetts Institute of Technology. The plan comprises 73 pages of text.

Echoing recent reports by Army officials, the plan points out that New England is perhaps more vulnerable to air attack than any other national region, and stated: "It is of considerable importance to the future safety of New England that some such development take place, in view of unsettled conditions abroad."

But expansion of all-year New England air transport operations cannot be expected in the near future, the survey said, because of the small size of the combined six states and the concentration of population in the southern part. An increased volume of private and non-scheduled flights is likely.

Because safe flying conditions are not found in many parts of New England due to woods, rough terrain and fog dangers, the report suggests that improvement and multiplication of air routes and ground facilities would solve the safety problem and would make New England an even greater vacation land.

Among many recommendations are emergency landing fields along the Boston-New York routes and marker and radio range beacons near Meriden, Conn.; similar facilities near Worcester and Pittsfield, Mass.; emergency landing fields in the New London, N. H., Sunapee region, with marker beacons on Mt. Kearsarge and on the Green Mountain ridge; emergency landing fields in the Salem-Beverly and Rowley-Newburyport areas; airway development on Cape Cod; improvement of fields at Farmington and Rangeley, Me.

AMERICAN ADDS SHIPS

Places Four New 21-Passenger Flagships on Southern Division

Chicago, August 1—C. R. Smith, president of American Airlines, today announced delivery of four new 21-passenger Flagship Club planes by the Douglas Aircraft Corporation. These planes were put into service today between Chicago, St. Louis, Tulsa, Oklahoma City, Dallas, and Fort Worth.

The Flagships are powered with two new type 1100 horsepower Wright G-102 engines and are capable of speeds up to 220 miles an hour.

Army Orders 10 More 4-Engined Boeing Bombers; Has Option on 3

Contract Totals \$3,708,000, With Last of 13 on 1936 Order Being Delivered This Month; Sikorsky Gets \$827,000 Navy Order

The Army Air Corps and the Navy each announced substantial aircraft contracts late in July.

The Navy Department announced on July 28 that a contract for four twin engine amphibian flying boats, for the sum of \$827,838.88, had been awarded to the Sikorsky Division of United Aircraft Corporation. Bids were received in the Navy Department on July 23.

On July 26 Secretary of War Woodring announced the award to the Boeing Aircraft Company, Seattle, of a contract for ten more B-17 four-engine bombers, the type generally known as the "Flying Fortress." The contract also includes an option for an additional three bombers, making a total of 13 on this order, and an adequate supply of spares. The total contract, if the option is exercised, will amount to \$3,708,002.20.

The Boeing company is now rounding out its original contract for thirteen of these planes, known as the YB-17 bombers. Eleven of them are already in service, all delivered since the beginning of the year, and the last two of this order will be in the hands of the Air Corps this month.

Planes under the new order will be similar to the first 13 except for minor military alterations. Each will be powered by four 1000 horsepower Wright "G" Cyclone engines.

In its release the War Department said the bombers can fly at speeds in excess of 225 miles per hour, carry five machine guns and a crew of seven to nine men, including a commanding officer, pilot, copilot, navigator, engineer, bomber, radio operator, and gunners.

At the present time Boeing is building six 72-passenger flying boats and eight four-engined sub-stratosphere 32-passenger landplanes. All production at present is four-engined equipment.

Oregon Aero Club Buys New Building

Portland, Ore., Aug. 1.—The Aero Club of Oregon, largest local aviation organization in the nation, announced purchase today of the Knights of Columbus building of four stories which it plans to renovate and make into the nation's finest aero club building.

Location of the building is Southwest Park Avenue and Taylor Street. The club plans to spend \$40,000 in remodeling and to provide living quarters for guests. The building already has a swimming pool, ballroom, lounges, and a gymnasium. The present club is at 626 Southeast Park Avenue. President is Harry K. Coffey, widely known insurance man and private pilot who has long taken a leading part in Northwestern aviation activities.

The club now has 800 members and is affiliated with the National Aeronautic Association. For a long time the membership of this club comprised a sixth of the total N.A.A. membership although now it represents about a seventh or eighth. Coffey said the club paid \$42,500 for the new property and that the club would move into its new home in three or four months.

UNITED AIRCRAFT NETS 39c A SHARE

Freedom from Labor Difficulties One Reason for Good 2d Quarter Showing

Expansion of plant facilities and freedom from labor difficulty has enabled United Aircraft Corp. to show 39 cents a share in the second quarter report against eight cents a year ago. The earnings this year showed only the added labor costs effective in 1936.

United did its financing last year and consequently has no bank loans or fixed charges coming before the income available for its stock. Greater stability is also enjoyed by United because the company derives a part of its profit from the construction of engines and propellers as well as the plane division, which operates mostly on orders.

For the quarter ending June 30, 1937, the company and its subsidiaries shows a net profit of \$989,203 after federal and Canadian income taxes, minority interests, and depreciation, but before surtax on undistributed profits, equal to 39 cents a share on 2,518,852 shares of capital stock which will be outstanding when all exchanges of common stock of United Aircraft and Transport Corp. have been affected.

TROPHY TO PAN AM

Collier Award Goes to Airline for Pacific Operations

Pan American Airways was awarded the Collier Trophy for 1936, since 1911 considered the outstanding aviation trophy. Presentation of the trophy was made by President Roosevelt at the White House executive offices on July 6. The National Aeronautic Association is custodian for the trophy which was established in 1911 by the late Robert J. Collier, of *Collier's Magazine*.

Pan American won the award on the basis of its Pacific operations. Three other contestants were considered by the committee: the Link trainer, sponsored by Casey Jones; the Glenn L. Martin Co., builders of the China clipper, and 100 octane gasoline, sponsored by Jimmie Doolittle.

C. B. Allen, aviation editor of The *New York Herald Tribune*, writing on August 7, reported considerable discussion on the award, reporting members of the committee as saying that the Glenn L. Martin Company and other equipment people should have been included in the honors for having contributed much toward Pan Am's successful operations in the Pacific.

Women's Air Meet

Chicago, Aug. 6.—The Chicago Girl's Flying Club, an organization composed of aviation enthusiasts, laid plans here at a meeting tonight in the Blackstone Hotel for a women's air meet to be held at Curtiss Field on Sept. 19. The meet will be patterned closely after the 99 Club's Rodairo held last year. Entree fee of \$5 per event will be charged but club members are exempt. Miss Emma Sprague, 1000 Michigan Avenue, Wilmette, Ill., is in charge of information on the affair.

Howland Island

(Continued from page 11)

nomenons on the island is the lack of rainfall in a part of the world which ordinarily sees rain almost every day. Rain squalls approaching the island would separate into two parts just before reaching it and often rain would be seen falling in the ocean all around without a drop falling on the island. Apparently this is caused by the column of heated air rising from the white hot sand on the island. No rainfall has been recorded.

Early Occupation

There is some evidence of early South Sea Islander occupation. There are excavations and remains of low flat mounds, probably foundations of floors. Several foot paths were found. In 1862 were discovered fragments of a canoe, pieces of bamboo, a blue bead, and remains of a hut, plus a human skeleton.

Campbell directed the building of a 5,200-foot runway on the island, with a second runway measuring 3,023 feet and a third, 2,439 feet. Each runway is 150 feet wide, and the photographs show only too clearly that the runways occupy the chief territory of the island. Materials used were guano, sand and coral, which packs very firmly and hard, giving all the characteristics of pavement. The runways total two miles, and required the moving of 15,000 cubic feet of soil.

Shaped like a kidney bean, Howland rises only twenty feet out of the water at the highest point. It was first reported in 1842 by Capt. George E. Netcher, of New Bedford, who was searching for guano deposits. Until 1879 the island was exploited commercially for guano but was not populated until the U. S. Coast Guard Cutter *Itasca* reached there in April, 1935.

Fishing is accomplished with spears and the waters surrounding the island abound in all manner of tropical fish. There are strong ocean currents. Without necessary equipment, it would be impossible for human beings to live more than a day or so on the island. A combination of heat, lack of water and the vicious rats would be the end for anyone not fully prepared.

Howland is about as isolated as any island could be. Baker Island, owned by the U. S., is 40 miles south on the other side of the equator. Jarvis is about 800 miles east, also owned by the U. S. The nearest land is 350 miles west in the Japanese mandate. Thousands of islands south and west of Howland have never been explored.

Irony in building the airport was that it was being prepared this year for Amelia Earhart's first flight. Had she not cracked up in Honolulu, she was scheduled to reach Howland in March. The crew worked four shifts, six hours per shift, to finish the runways for a visit that didn't take place. And then Amelia tried again, going the other way around the island. She never reached Howland.

So there it stands, the perfect airport in the mid-Pacific, beautiful but perilous, ready for—well, only time will tell.

River Route Reported

St. Louis, Aug. 2.—Reports are around the city that several Oklahoma City pilots, with the aid of financial backing from Mississippi interests, are planning an airline from Baton Rouge, La., to St. Louis with the use of Lockheed Vegas on floats, making six stops en route at river ports.

S. E. C. LISTS MORE EQUITY HOLDINGS

Boeing Stock Acquired by Directors; Seversky and Zeller Decrease Holdings; No Large Deals

Following is an official summary of transactions and holdings of officers, directors, and principal stockholders of corporations with equity securities registered, filed with the Securities and Exchange Commission July 1 to 10. Unless otherwise specified, transactions were made in June and holdings are as of the end of that month:

American Airlines—C. C. Moseley, director, decreased common 400 to 409.

Boeing Airplane Co.—William M. Allen, director, increased 3 common to 12 through exer. of rights. Harold E. Bowman, officer and director, holds 50 common and sold that amount of rights. C. L. Egstedt, director, increased 1,458 common to 5,833 through exer. of rights. Paul Pigott, director, holds 100 common and sold that amount of rights. Phillip G. Johnson, director, holds 2,500 common and sold that amount of rights. Dietrich Schmitz, director, holds 200 common and sold that amount of rights.

Consolidated Aircraft Corp.—C. A. Van Dusen, officer and director, increased 100 common to 3,600 and holds 148 conv. pfd. James L. Kelley, director, acquired 12 common in March and 16 in April, holding 31.

Lockheed Aircraft Corp.—G. Brashears, director, none directly; through G. Brashears and Co. (prop. int. not shown) disposed of all of 1,000.

National Aviation Corp.—Aviation Sec. Corp., disposed of 44 common by exchange, holding 62,339. Frank L. Crocker, director, none directly; through holding company acquired 10,000 common, holding that amount.

Seversky Aircraft Corp.—A. P. De Seversky, officer and director, decreased 4,000 common to 61,215. F. William Zeller, officer, decreased 2,400 common in May and 200 in June, leaving 17,100. **United Aircraft Corp.**—Carroll L. Gault, officer, decreased 160 common to 200.

Following is tabulation of equity holdings of officers, directors, and principal stockholders of companies, any of whose securities have become registered with the Commission. Month covered is indicated in each case:

Air Devices Corp.—Option relating to following shares: E. O. Sessions, officer and director, 10,000 common, May 1937.

Beech Aircraft Corp.—R. K. Beech, director, 240 common, April, 1937.

Brewster Aeronautical—Van Aalstine Noel Co., benef. owner, 30,537 capital, May 1937. Com. warrants: Van Aalstine Noel Co., benef. owner, 25,000, May 1937.

Curtiss-Wright Corp.—George N. Armsby, director, 110 common, July, 1935.

Following is tabulation of equity holdings of officers, directors, and principal stockholders of companies, any of whose securities have become registered with the Commission:

Consolidated Aircraft Corp.—James L. Kelley, director, 3 3/4 conv. pfd., Sept. 1936.

DEFENDS DYCKER AIRPORT

City Council Resolution Urges Abandonment After Mid-Air Collision

Los Angeles, August 6.—Edward Dyer, manager of Dyer Airport, located at 9401 South Western Avenue, yesterday defended his field after a resolution had been introduced in City Council asking abandonment of the site in the interest of public safety.

The cause of the resolution was a mid-air collision near the airport last Monday. Two persons were killed and two seriously injured.

In a letter to the City Council, Dyer stated that the airport has been in operation since 1923 and "that approximately 1,000,000 take-offs and landings have been made since that time." He also stressed the fact that Dyer Airport had no control over the conditions which brought about the accident.

All-Time Traffic Record in June

Air Lines Flew 41,180,337 Revenue Passenger Miles to Surpass Peak of July, 1936; Early July Statistics Indicate Another High May be Reached

COMMERCIAL. scheduled airlines of the U. S. reached an all-time high peak in June when they flew 41,180,337 revenue passenger miles, according to figures released by the Air Transport Association.

The previous peak was in July, 1936, when 40,104,800 revenue passenger miles were flown by the domestic lines. The percentage increase for June of this year over June of 1936 is 13.2 per cent.

Traffic for the first half of 1937 amounted to 174,820,643 revenue passenger miles, an 11 per cent increase over the figures for the first half of 1936, and 46 per cent greater than the first half of 1935.

Express business showed even greater gains, the first five months figures of 2,765,957 pounds carried over the airlines being 25 per cent greater than the corresponding period in 1936 and 156 per cent greater than in 1935.

Reports from airline companies indicate that July will also be a record-breaking month when figures are compiled. Major lines are running from 10% to 15% ahead of the corresponding period in June.

Financial observers consider that the record passenger traffic volume places the air transport industry in a position where it is making money, despite the rather bad months early in the year. American has stood up best this year so far, with United picking up steadily beginning in May and TWA coming up in June.

Installation of new equipment has had much to do with ever-changing air transport picture. Until American Airlines began using its new DC-3 transports (twenty-one passengers and sleepers) last fall, United led all lines in the country in traffic volume. American's advantage with larger equipment put it in the lead until United also began installing its new DC-3 equipment in May. During June United narrowed the distance between the two and may overtake the lead again during July. TWA, which began using larger ships in July, has shown a corresponding increase in revenue passenger miles flown.

In the first ten days of July, American is estimated to have flown 4,211,599 revenue passenger miles, while in the same period, United is estimated to have flown 4,100,000. TWA in the first eleven days of July is estimated to have flown 2,566,987 revenue passenger miles.

ANIMALS O. K.

Air Express Will Accept Live Shipments with Reservations

Live creatures producing no offensive odor and not requiring water or food in transit are now accepted in air express service provided the scheduled time in transit will permit of their safe transportation, the Air Express Division of Railway Express Agency has announced.

Baby chicks in standard containers may be accepted under the ruling when under the regular schedule they will reach their destination within 72 hours from the time of hatching. Started chicks will not be accepted.

Revenue Passenger Miles

The following table supplied by the Air Transport Association shows the revenue passenger miles of member domestic scheduled airlines.

	(a) 1935	(b) 1936	% increase over 1935	% increase over 1936
January	11,528,600	16,515,000	43.2	18,251,067
February	13,959,800	15,765,700	12.9	21,824,730
March	21,285,800	27,605,000	39.7	29,515,169
April	23,002,800	26,383,700	14.7	27,847,925
May	23,284,100	34,884,600	49.8	36,201,415
June	26,854,100	36,388,100	35.4	41,180,337
July	29,276,400	40,104,800	37.0	
August	30,729,700	38,504,000	28.3	
September	27,540,400	38,932,000	41.4	
October	24,757,300	39,570,300	59.8	
November	17,920,100	38,442,000	114.5	
December	19,819,700	35,000,000	76.6	
Total	269,958,800	388,095,200	43.7	

(a) For 1935—Estimate on basis of 86% of total passenger miles.

(b) For 1936—Estimate up to and including June, on basis of 87% of total passenger miles. July-October on basis of ratio of revenue passengers. Actual figures beginning, November, 1936.

The Three Major Lines

The following compilation by The Wall Street Journal shows the trend of traffic and load factor (percentage of available seats occupied by revenue passengers) for the three transcontinental lines for the year to date:

Month	1937	1936
	Rev. pass. Miles flown	% of Load Tot. Factor
American Airlines		
June	12,541,135	30.4
May	11,463,425	31.6
April	8,982,029	32.2
March	8,921,498	30.2
February	6,645,319	30.4
January	5,472,942	29.9
Six mos.	54,026,349	30.9
United Air Lines		
June	11,099,366	26.9
May	9,186,206	25.3
April	5,844,177	20.9
March	5,328,583	18.0
February	3,557,922	15.3
January	3,644,694	19.9
Six mos.	38,459,948	21.9
Transcontinental and Western Air		
June	6,545,817	15.8
May	5,372,424	15.0
April	4,296,728	15.7
March	4,853,260	16.8
February	3,606,847	16.5
January	3,414,034	18.7
Six mos.	8,089,110	16.0

* Preliminary.

EAL Has Best July

Eastern Air Lines in July carried 12,006 passengers and flew 674,092 airplane miles, General Manager Captain Eddie Rickenbacker announced recently. This was the best for any July in the history of the company.

N. A. Aviation Profits

North American Aviation, Inc., showed a net profit of \$63,564 for the six months ending June 30. This does not include a \$1,268 profit realized on sale of securities. This is less than

the \$86,027 which was the net profit for the six months ending June 30, 1936. However, unfilled orders as of June 30, 1937 amounted to \$8,068,322.47 as compared with \$1,190,390 as of June 30, 1936.

Planes Shipped to Argentine

San Diego, July 28—Three planes for the Argentine government were shipped from here yesterday aboard the freighter West Nilus. Three more are to be shipped sometime this month. The planes were built by the Consolidated Aircraft Corporation.

Hanford Line Signs With Air Mechanics

Hanford Airlines signed a contract with the Air Line Mechanics Association effective August 1 which has resulted in a 17% increase in salary and other features, according to announcement by the association.

In addition to the salary increase, other clauses of the agreement include: time and one-half for overtime; provisions for bidding in better jobs; opportunity of protecting their jobs and rights through the process of collective bargaining which establishes Shop Committees and Adjustment Boards; written guarantee of paid vacation. This is the second airline agreement signed with the association, the first being with American Airlines.

"The officials of the Hanford Airlines are to be complimented on their foresight and good judgment in recognizing the benefits of collective bargaining and in effectuating peacefully the requests of their employees," the announcement said.

GLENN MARTIN SIGNS

"Unilateral Agreement" Provides 40-Hour Week for Workers

Baltimore, August 6.—A "unilateral agreement" with its employees was announced today by the Glenn L. Martin Company. The agreement provides for a minimum wage of 40 cents an hour, a 40-hour, five-day week, and vacations with pay for those who are qualified.

About 600 workers met August 5 to form an employees association. While the meeting was in progress, two sound trucks arrived in front of the hall and speakers began to advocate the Committee for Industrial Organization. Police were called and restored order.

Fairchild Shows Profit

Fairchild Aviation Corp. showed a net profit of \$85,059 for the six months ending June 30, 1937. This is equal to 25 cents a share on 337,032 shares of capital stock. In the first half of 1936, the company netted \$21,043, or six cents a share.

It has also been announced that J. M. Miller-Aichholz, president of Prudential Investors, Inc., has resigned from the Fairchild board of directors.

Fairchild's Backlog Up

Unfilled orders of the Fairchild Aviation Corp. as of June 30 were \$1,203,288 against \$951,980 for a similar period last year. This is a gain of 26.4 percent.

Mattern at Pittsburgh

Pittsburg, Pa., Aug. 9—Jimmy Mattern will use Allegheny Airport here as his base for flight tests preparatory to his U. S.-Moscow hop scheduled for next spring. The Department of Commerce refused him a permit for this year but has promised him permission next spring. Mattern's flight is to be sponsored by M. L. Benedum, Pittsburg oil man.

6 Mos. Aircraft Sales—\$49,450,114

Indications Excellent for First \$100,000,000 Year in Aviation Manufacturing History; Delivery of Commercial Airplanes Shows Big Jump

AMERICAN aircraft, aircraft engines, and spare parts sales reached \$49,450,114 for the first six months of 1937, as compared with \$32,218,341 for a similar period last year. This represents an increase of 53.3 percent and almost reaches the half way point toward the \$100,000,000 mark which is believed a possibility for 1937.

The 53.3 percent figure is slightly below the increase for the first four months of 1937. Sales during this period totaled \$30,474,871 as against \$18,878,805 for the first four months last year. This increase was 61.4 percent.

Delivery of commercial airplanes showed a big jump for the six months period. A total of 1,061, valued at \$9,989,085, were delivered. This is an 81 percent increase over the value of deliveries during the same period last year when 655 commercial planes were handled, valued at \$5,511,321. Of the 1,061 delivered this year, 953 were two, three, and four-place private machines, 97 transport jobs, three seaplanes, and eight amphibians.

Military aircraft increased from 372, valued at \$8,357,375 for the first six months of 1936, to 264, valued at \$12,462,564 for this year. This is an increase of 49 percent.

Commercial engine deliveries were 2,083 valued at \$7,797,038, an increase of 85 percent, and military engines were 936 valued at \$7,075,309, a decrease of two and one-half percent, though the number compared with 827 units in 1936.

Spare part sales for aircraft and engines were \$12,126,118 as against \$6,879,756 for a similar period last year.

These figures were released in a report by Leighton W. Rogers, president of the Aeronautical Chamber of Commerce of America, Inc.

UNITED ORDERS 10 MORE

Receives Last of Original Order of 30 DC-3's

Chicago, August 28.—Harold Crary, vice-president of United Air Lines, announced yesterday that the company had placed an order for 10 additional DC-3 mainliner twin-engined transport planes. These ships will be powered with two 14-cylinder Pratt & Whitney Wasps.

On July 30, United took delivery on the last of its original order of 30 Douglas planes, including sleeper, sky-lounge, and 21-passenger type ships.

AMERICAN SETS RECORDS

Surpasses Marks for Passenger Miles, Revenue Passengers

Chicago, August 5.—C. R. Smith, president of American Airlines, today announced that during the month of July the company broke the world records for revenue passengers and revenue passenger miles flown.

In July, American carried 33,333 paid passengers and flew 13,078,082 passenger miles. Previous high marks for the industry were 30,902 passengers and 12,541,135 passenger miles.

The passenger figure represents a

PRODUCTION AND DELIVERIES OF AIRCRAFT ENGINES—BY MONTHS

Month	MILITARY			COMMERCIAL		
	Units	Value	Deliveries	Units	Value	Deliveries
January	212	\$1,503,953	212	170	\$622,589	167
February	121	793,335	121	287	1,023,886	271
March	151	1,078,045	155	343	1,426,813	353
April	163	1,307,095	165	390	1,598,639	383
May	156	1,277,568	157	425	1,576,842	408
June	126	1,050,050	126	486	1,638,126	501
Total 6 months	931	\$7,010,046	936	2,101	\$7,886,875	2,083

PRODUCTION AND DELIVERIES OF AIRPLANES—BY MONTHS

Month	MILITARY			COMMERCIAL		
	Units	Value	Deliveries	Units	Value	Deliveries
January	23	\$1,418,957	26	113	\$1,178,607	103
February	30	2,035,860	30	129	1,217,059	135
March	50	2,193,919	50	159	1,964,945	154
April	51	2,230,592	51	153	1,881,830	159
May	44	2,094,059	44	274	2,083,772	256
June	63	2,427,980	63	270	1,772,307	254
Total 6 months	261	\$12,391,367	264	1,061	\$9,989,085	1,061

AIRCRAFT SPARE PART SALES—BY MONTHS

Month	Commercial	Military	Misc.	Total
January	\$346,307	\$588,066	\$30,636	\$965,009
February	534,318	701,279	65,820	1,301,417
March	312,321	505,610	219,764	1,037,695
April	293,096	821,151	147,333	1,261,580
May	587,022	600,283	173,560	1,360,865
June	521,213	1,117,981	569,646	2,208,840
Total First Six Months	\$2,594,277	\$4,334,370	\$1,206,759	\$8,135,406

ENGINE SPARE PART SALES—BY MONTHS

Month	Commercial	Military	Misc.	Total
January	\$175,283	\$299,400	\$31,541	\$506,224
February	195,747	321,625	60,343	577,715
March	311,707	324,178	107,031	742,916
April	140,071	283,277	205,116	628,464
May	313,380	302,664	110,414	726,458
June	352,100	356,588	100,247	808,935
Total First Six Months	\$1,488,288	\$1,887,732	\$614,692	\$3,990,712

RECAPITULATION OF ALL PRODUCTION AND DELIVERIES JANUARY 1—JUNE 30, 1937

	Production			Deliveries		
	Units	Value	Per cent	Units	Value	Per cent
Commercial airplanes	1,098	\$10,098,520	20.4	1,061	\$9,989,085	20.2
Military airplanes	261	12,391,367	25.	264	12,462,564	25.2
Commercial engines	2,101	7,886,875	15.9	2,083	7,797,038	15.8
Military engines	931	7,010,046	14.2	936	7,075,309	14.3
Airplane spares	....	8,135,406	16.4	....	8,135,406	16.5
Engine spares	....	3,990,712	8.1	....	3,990,712	8.
		\$49,512,926	100.0		\$49,450,114	100.0

gain of 7.9 percent over June while the passenger miles is an increase of 4.7 percent. New all-time highs were reported on the Chicago, Detroit, Buffalo, New York route, as well as New York-Boston, Boston-Cleveland, Chicago-Washington, Cleveland-Nashville, and New York-Dallas-Fort Worth routes.

Department of Commerce figures show that American transported 31.7 percent of the 464,068 passengers carried by the 20 domestic airlines during the first six months of this year, Smith said.

National Buys Lockheeds

National Airlines, Inc., of which G. T. Baker is president, has placed an order for two twin-engined Lockheed Electras with the Lockheed Aircraft Corp., Los Angeles. Delivery is to be in November. Purchase price totaled \$112,000. Baker will use the planes on his St. Petersburg-Daytona Beach and St. Petersburg-Miami routes, replacing Stinson A tri-motored transports.

Lockheed's Profit, Backlog at New High

Lockheed Aircraft Corp. reported a net profit of \$281,562 for the six months period ending June 30, completing the most successful half year in the history of the company. The profit was after all charges, including normal Federal income tax, and equals 43 cents a share on the 659,213 shares of common stock outstanding.

This figure compares with \$100,125 or 15 cents a share for the entire year of 1936. Sales for the first half of this year totaled \$2,644,991 as against \$660,974 in the corresponding period a year ago, while the backlog stands at \$3,137,374, comparing with \$915,000 for the first six months of 1936. Approximately \$1,346,658 of this backlog is for the Electra "12" and the remaining \$1,790,716 are for the larger model "14". This large volume of business was done without the aid of bank loans.

Robert E. Gross, president of the company, in his letter to the stockholders, stated that Lockheed had spent approximately \$750,000 increasing facilities. He predicted that the real benefits of this expansion are yet to be realized.

At a recent meeting, Frank F. Russell, New York City, and Charles A. Barker, Jr., Los Angeles, were elected directors of the company. Personnel totaled 1667 on July 20 of this year.

Northrop Announces \$100,000 Expansion

Los Angeles, Aug. 4.—An expansion program involving more than \$100,000 in new construction has been announced by the Northrop Corporation, Douglas subsidiary, at their plant at Los Angeles Municipal Airport. Permits totaling \$108,000 have been issued, covering the building of an additional factory unit at a cost of \$100,000 and an addition to the present plant.

\$350,000 INTERSTATE PLANT

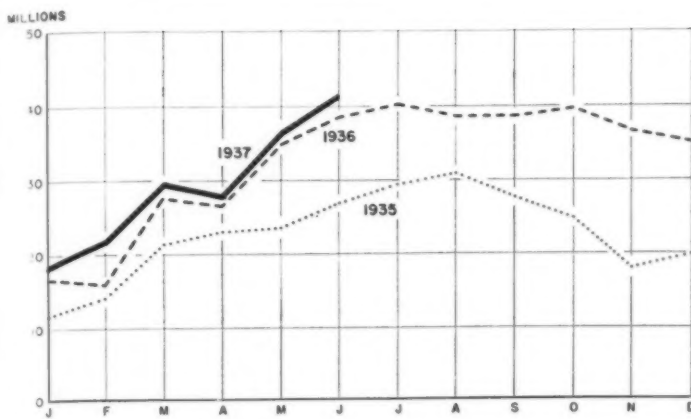
Company Operating Two Eight-Hour Shifts Daily

Hawthorne, Calif., July 25.—A new \$350,000 plant is now occupied by Interstate Aircraft and Engineering Corp. and the company is operating two eight-hour shifts daily, according to Harry Reynolds, president. The new plant adjoins Mines Field airport here.

The company manufactures aircraft precision parts for Douglas and other leading aircraft manufacturers, and is said to be the largest of its kind in the country.

Two buildings with a combined floor space of more than 40,000 square feet are included in the new unit. Six acres of ground provide adequate space for future expansion.

REVENUE PASSENGER MILES FLOWN



Curtiss-Wright Reports \$631,346 Quarterly Profit, Engine Biz Up

A net profit of \$631,346 for the quarter ending June 30, 1937, was shown in the report of the Curtiss-Wright Corp. and subsidiaries. This was after federal income taxes and depreciation but before surtax on undistributed profits and was equal after dividend requirements on two dollar Class A stock to one cent a share on 7,472,612 shares of common stock.

In the preceding quarter the figure was \$269,251 or 23 cents a share on 1,158,300 shares of two dollar Class A stock and \$553,341 or 47 cents a share on Class A stock in the June quarter of 1936.

For the first six months of 1937, the corporation showed a net profit of \$900,597, which paid 78 cents a share on Class A stock. This compares with \$821,820, or 71 cents a share during the first six months of 1936.

The Wright Aeronautical Corp., controlled by the Curtiss-Wright Corp., showed a net profit of \$750,240 for the quarter ended June 30, 1937, and a net profit for the first six months of this year of \$1,036,593. This compares with \$286,353 in the preceding quarter and \$613,589 for the first half of last year.

Curtiss-Wright Corp. attributes much of the increase in earnings to the activity of the engine production department at Paterson, N. J. Another increase is looked for during the last six months of the year by deliveries from the plane manufacturing division in Buffalo. This department contributed little to the earnings of the company last year or so far this year.

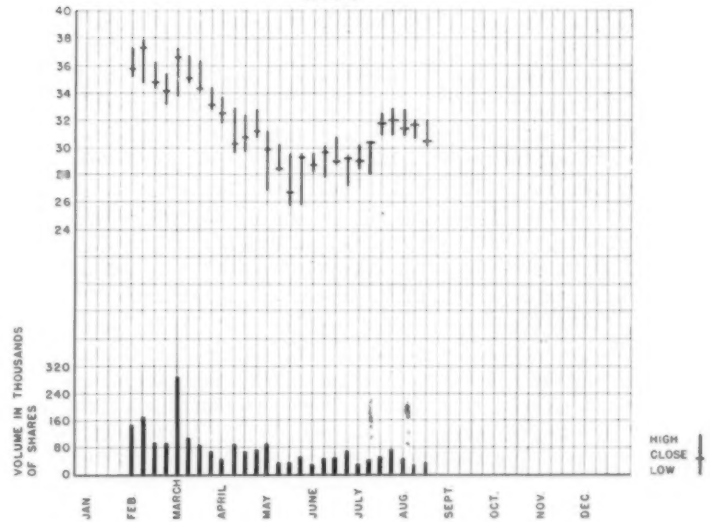
Deliveries are anticipated from the Buffalo division on 83 scout bombers for the U. S. Navy and some Curtiss twin-motored Army attack planes. The company also has material for 230 pursuit planes for the Army and 87 scout observation planes for the Navy.

The Curtiss "electric constant full feathering" propeller is now being produced by the propeller division at Buffalo, which at present is operating close to capacity. This is another department which has contributed little to earnings.

Orders for 531 Cyclones to power 177 new Douglas Army bombers and 120 North American Army observation planes have been received by Curtiss recently. The engine plant, which has always been the most profitable section, is being enlarged and the addition was to have been finished about the middle of this month.

AVIATION STOCK TRENDS

WEEKLY AVIATION AVERAGES (1937)

DATA SUPPLIED BY WYCKOFF ASSOCIATES, INC.
CHART AND COMMENTS BY PHILIP P. FRIEDLANDER

Line Chart Figures Furnished by Wyckoff Associates, Inc. Charts and Comments by Philip P. Friedlander

Technical signs are definitely developing to disprove our original theory that only a short time was needed before aviation stocks would continue their forward journey. The month of July represented a period of preparation for a move back to the old highs. The fact that the aviation averages displayed such buoyancy running quickly to 33, confirmed the prospect, that after a backing and filling movement, the aviation stocks would quickly go into new high grounds.

Five weeks have elapsed and, while the volume studies continue bullish on the group, no definite progress has been made. As a matter of fact supply is definitely showing up in the charts. The rallies have failed to penetrate the 33 point and the averages have gradually gone into slightly lower grounds. There is enough preparation here for the averages to back down to 29-28. If this should happen the aviation stocks would be in a buying zone. This week the averages broke through

their old support point of 31.06 and at this writing are close to 30.

This maneuver could, of course, represent a closing of the gap which occurred in the third week of July. If this should be a move of this sort, deadness in activity and not much lower prices, would be the sign.

It should be noted that very often before a real move, stocks sometime seek to fool the technician by breaking supports and then suddenly coming to life and perform on the upside with a vengeance.

If any real volume develops as the stocks go lower, this would be the signal that a corrective move of some importance is in the making. On the other hand, if this downward move continues with dull volume, and on the rallies the volume becomes heavier, this would be a very favorable sign. Irrespective of what the next few weeks bring, the aviation stocks will test out their old highs before real distribution takes place.

AVIATION LEADS

Employment Gains Recorded in California for 6th Month

Los Angeles, July 30—The aircraft industry led the California industrial field in employment gain for the sixth consecutive month, according to the Bank of America in its business review for June.

The aircraft industry surpassed June, 1936 by 74 per cent and registered a pay roll increase of 82.3 per cent the bulletin said, in emphasizing the growing importance of aviation to California. While other industrial lines have showed substantial betterment, aviation has continued to lead the way.

Milan Show Oct. 2-17

The Aeronautical Chamber of Commerce has advised its members of the Second International Aircraft Exhibition to be held at Milan, Italy, October 2-17, 1937. American manufacturers are invited to participate. Information may be had by writing to Charles E. Parker, vice-president of the chamber, Securities Building, Washington, D. C.

Menasco Up 56%

Menasco Manufacturing Co., Los Angeles, reports a 56% increase in production of aircraft engines for the first half of this year as compared with the previous six months period. This compares with a 96% increase in production over the first half of 1936.

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Taylor Cub completely recovered, motor majored, no time since, perfect, relicensed June, 1938—\$475.00. Finance if wanted. Air Transport, Roosevelt Field, L. I.

Gliners—Primary Training. Knocked-down Construction Kits. 10¢ coin for full particulars. Money refunded first order. McFarland Aircraft Corporation, Greenville, Ohio, U. S. A.

LEADING AVIATION STOCKS

New York Stock Exchange

Week Ending July 31

Week Ending August 7

	High	Low	Net Change	Sales	High	Low	Net Change	Sales
Aviation Cp. of Del.	7 ³ / ₈	6 ³ / ₈	+ 3 ¹ / ₈	6,900	7 ³ / ₈	6 ³ / ₈	— 1 ¹ / ₈	8,800
Bendix Aviation	21 ³ / ₈	20 ¹ / ₂	+ 1 ¹ / ₈	11,100	21 ¹ / ₈	20	— 3 ¹ / ₈	4,600
Boeing Airplane	36 ¹ / ₈	32 ¹ / ₂	+ 3 ¹ / ₈	26,300	36 ¹ / ₈	34 ¹ / ₈	— 1 ¹ / ₈	12,200
Consolidated Aircraft	24 ¹ / ₈	22 ³ / ₈	— 1	3,700	23 ³ / ₈	21 ³ / ₈	— 1	3,400
Curtiss-Wright	6 ³ / ₈	6	— 1 ¹ / ₈	24,300	6 ¹ / ₈	5 ⁷ / ₈	— 1 ¹ / ₈	19,300
Douglas Aircraft	20 ¹ / ₈	19 ¹ / ₂	— 1 ¹ / ₈	9,100	20 ¹ / ₈	19 ¹ / ₈	— 1 ¹ / ₈	7,300
Glenn L. Martin	59 ³ / ₈	57 ¹ / ₈	+ 1 ¹ / ₈	8,700	59 ¹ / ₈	56	— 2 ¹ / ₈	9,200
Natl. Aviation Corp.	24 ¹ / ₈	21 ¹ / ₈	+ 3	7,400	25 ¹ / ₈	23 ¹ / ₈	— 1 ¹ / ₈	7,600
N. American Aviation	13 ¹ / ₈	13	— 3 ¹ / ₈	1,700	13 ¹ / ₈	12 ³ / ₈	— 1 ¹ / ₈	500
Snerv Gyroscope	12 ¹ / ₈	11 ³ / ₈	— 1 ¹ / ₈	11,200	12 ¹ / ₈	11 ¹ / ₈	— 1 ¹ / ₈	11,800
Thompson Products	19 ¹ / ₈	18 ¹ / ₈	— 1 ¹ / ₈	5,100	18 ³ / ₈	18	— 3 ¹ / ₈	400
TWA	27	25 ³ / ₈	+ 7 ¹ / ₈	2,900	28	26 ³ / ₈	— 3 ¹ / ₈	3,800
United Aircraft	15 ¹ / ₈	14 ³ / ₈	+ 1 ¹ / ₈	3,000	16	14 ¹ / ₈	— 1 ¹ / ₈	4,200
United Air Lines	30 ¹ / ₈	28 ³ / ₈	+ 3 ¹ / ₈	12,600	31	29 ¹ / ₈	— 1	15,200
	17 ³ / ₈	16 ³ / ₈	.....	4,500	17 ³ / ₈	15 ³ / ₈	— 1 ¹ / ₈	5,800

New York Curb Exchange

Week Ending July 31

Week Ending August 7

	High	Low	Net Change	Sales	High	Low	Net Change	Sales
Aero Supply	4	4	— 1 ¹ / ₈	200	4	3 ³ / ₈	— 1 ¹ / ₈	2,200
American Airlines	26 ³ / ₈	25 ¹ / ₈	— 1 ¹ / ₈	1,700	26 ³ / ₈	25 ¹ / ₈	— 3 ¹ / ₈	3,200
Beech Aircraft	3	3	.....	300	3 ¹ / ₈	3	.....	1,400
Bell Aircraft	16	15 ³ / ₈	— 1 ¹ / ₈	800	16 ¹ / ₈	15 ³ / ₈	— 1 ¹ / ₈	1,300
Bellanca Aircraft	6 ³ / ₈	6	— 3 ¹ / ₈	1,200	6 ³ / ₈	5 ³ / ₈	— 1	100
Breeze Corp.	10	10	.....	100	9	9	.....	1,400
Fairchild Aviation	11 ¹ / ₈	10 ³ / ₈	+ 3 ¹ / ₈	800	11 ¹ / ₈	10 ³ / ₈	.....	200
Lockheed Air	13 ¹ / ₈	12 ¹ / ₈	+ 3 ¹ / ₈	5,100	14 ¹ / ₈	13 ¹ / ₈	+ 1 ¹ / ₈	11,100
Lockheed Air	13 ¹ / ₈	12 ¹ / ₈	+ 3 ¹ / ₈	5,100	14 ¹ / ₈	13 ¹ / ₈	+ 1 ¹ / ₈	1,500
Pan American Air	66 ³ / ₈	63 ¹ / ₈	— 3	1,200	66 ¹ / ₈	65	+ 2 ¹ / ₈	1,500
Seversky Aircraft	3 ¹ / ₈	3 ³ / ₈	— 1 ¹ / ₈	3,200	3 ¹ / ₈	3 ³ / ₈	1,800

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